TEXTILE WORLD

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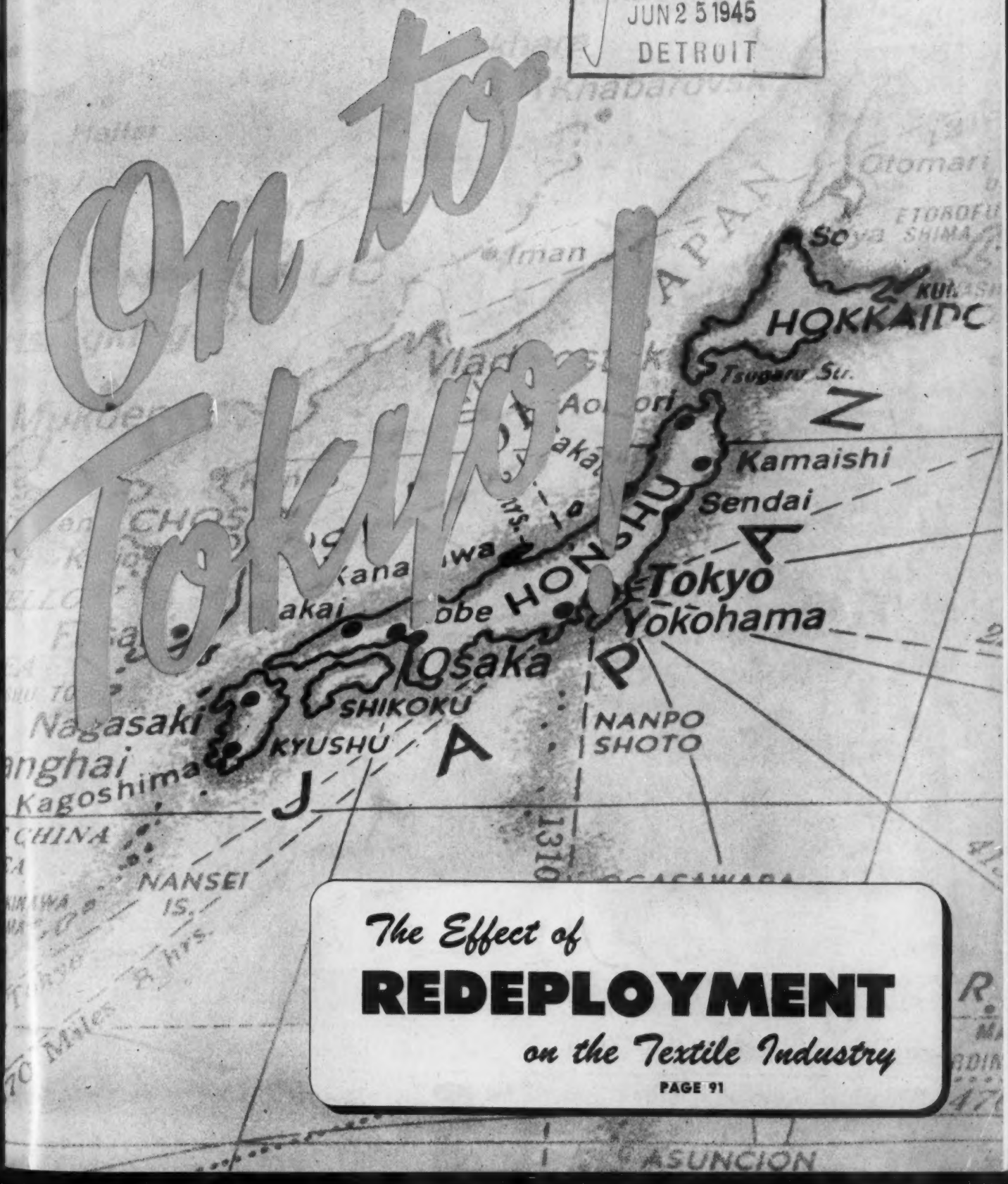

The Effect of REDEPLOYMENT on the Textile Industry

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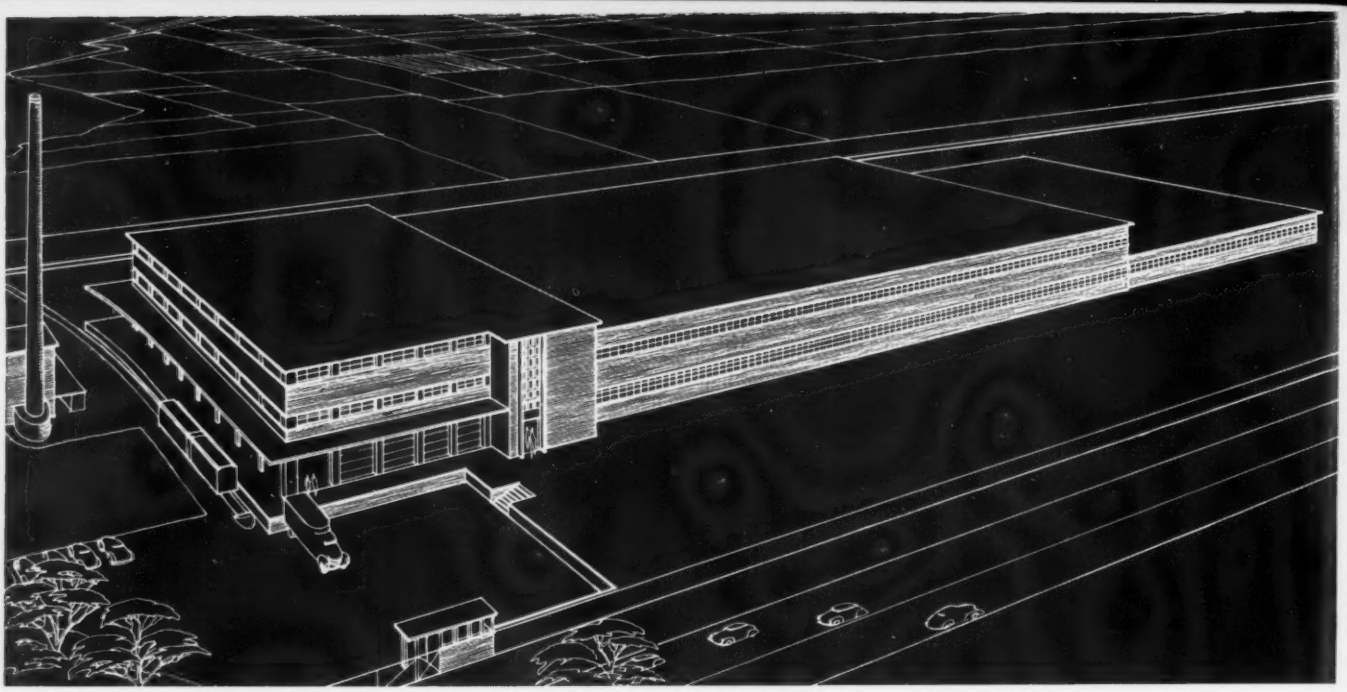

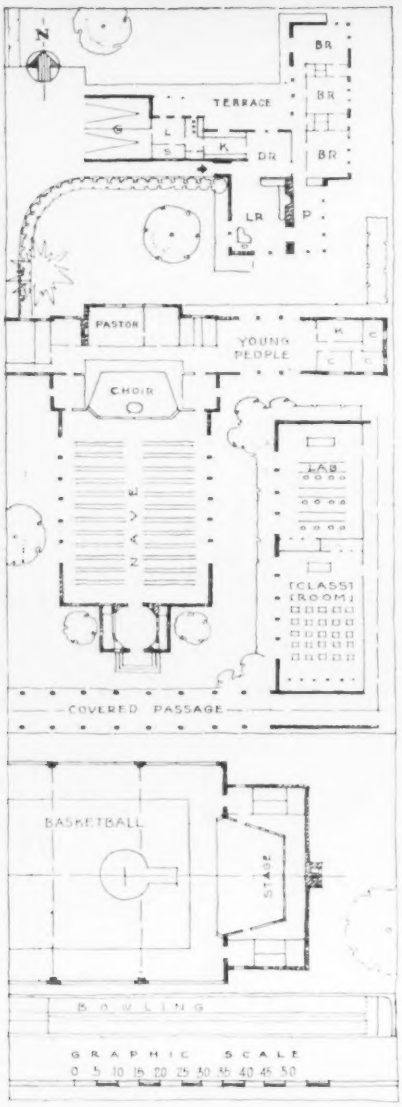

Consultants on post-war community development

VILLAGE MODERNIZATION

HOMES FOR OFFICIALS AND DEPARTMENT HEADS

EMPLOYEE HOUSING

COMMUNITY BUILDINGS

CHURCHES - SCHOOLS

THEATRES - PARKS

SWIMMING POOLS

GYMNASIUMS

ROBERT AND COMPANY
INCORPORATED
Architects and Engineers
ATLANTA

TWENTY-SEVEN YEARS NATIONWIDE EXPERIENCE IN TEXTILE AND COMMUNITY DEVELOPMENT

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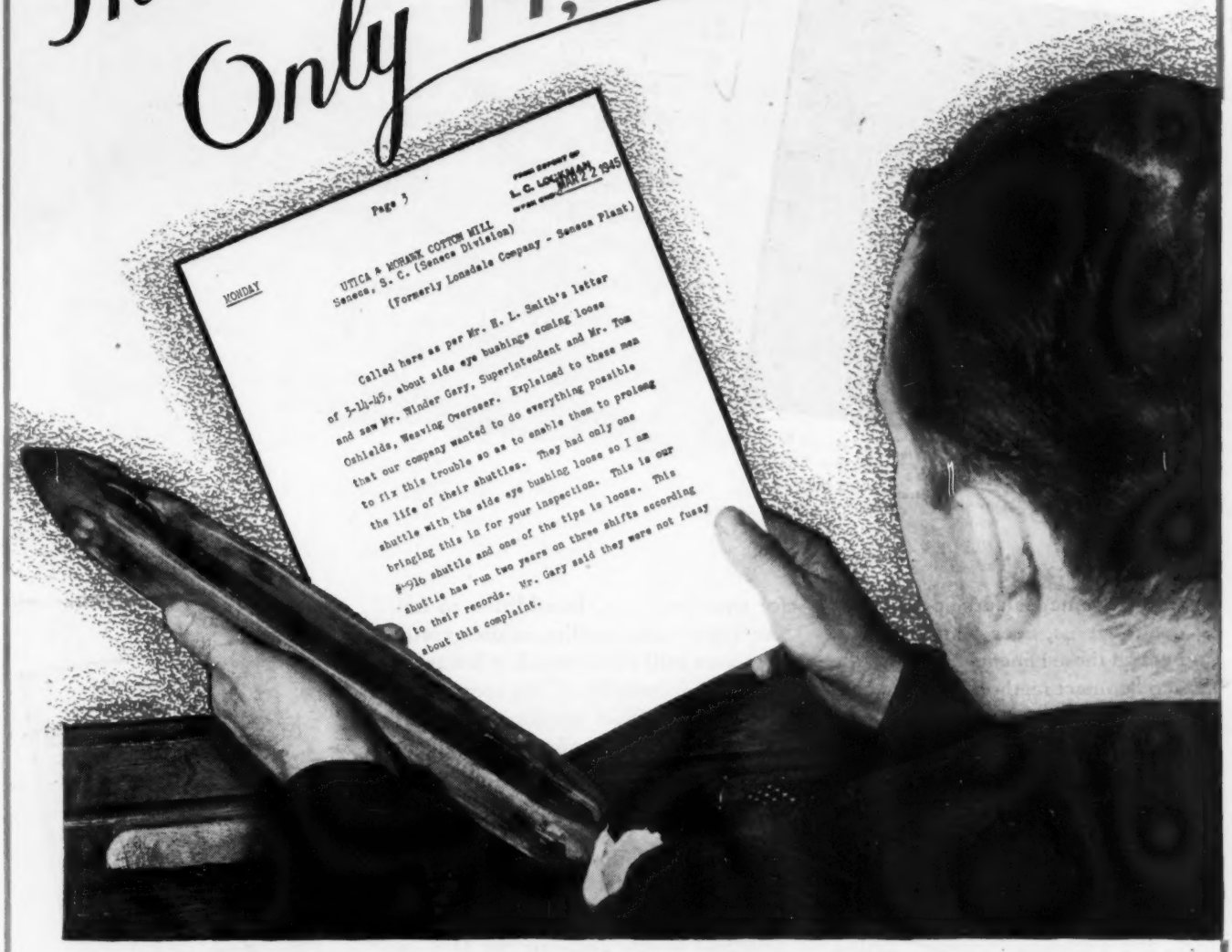
This Shuttle Ran Only 14,872 Hours!


Page 3
L. C. LOCKMAN
MAR 22 1945
MONDAY
UTICA & MOHAWK COTTON MILL
Seneca, S. C. (Seneca Division)
(Formerly Lonsdale Company - Seneca Plant)
Called here as per Mr. H. L. Smith's letter
of 3-14-45, about side eye bushings coming loose
and saw Mr. Winder Gary, Superintendent and Mr. Tom
Oshields, Weaving Overseer. Explained to these men
that our company wanted to do everything possible
to fix this trouble so as to enable them to prolong
the life of their shuttles. They had only one
shuttle with the side eye bushing loose so I am
bringing this in for your inspection. This is our
#-91b shuttle and one of the tips is loose. This
shuttle has run two years on three shifts according
to their records. Mr. Gary said they were not fussy
about this complaint.

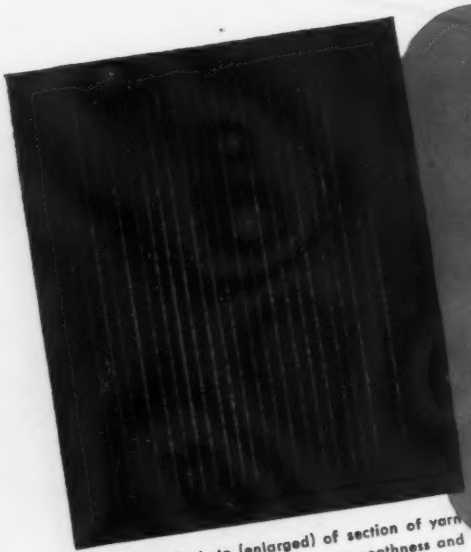
Congratulations Mr. Gary and Mr. Oshields for this splendid example of excellent loomfixing.

It should prove an impressive example to others of the importance of good loomfixing in prolonging the life of their shuttles.

Draper Corporation

Atlanta Hopedale Spartanburg

TEXACO "CONTACT METHOD" OF FIBRE CONDITIONING...



Unretouched photo (enlarged) of section of yarn on inspection board, showing typical smoothness and uniform quality of yarn treated with Texspray.

★ Preserves long, valuable staple
★ Aids carding and drafting
★ Makes fibres more supple
★ Prevents loss of natural spirality
★ Produces clean, natural-color yarns
★ Assures uniform yarn count
★ Reduces ends down
★ Promotes more uniform drafting
★ Keeps card clothing bright and rust-free
★ Does not affect finishing processes

THESE advantages add up to better quality yarns, finer textile fabrics. You get all these benefits only with the Texaco "contact method" of fibre conditioning.

Method and point of application are all-important to effective conditioning. A special applicator, developed and patented by The Texas Company, is installed in the beater chamber. Thus the conditioning agent—*Texaco Texspray Compound*—is applied only to clean stock. An exclusive "wiping" action assures uniform application throughout the entire lap. Each individual fibre gets its equal share by direct contact, without waste.

Texaco Texspray Compound, refined exclusively as a fibre conditioner, has been successfully used by leading mills for over ten years. In addition to improving product quality, its use greatly increases mill efficiency. For instance, static is minimized and "eyebrows" are reduced. *Healthier working conditions and more satisfied employees* result from reduction of dust and fly. *Fire hazard is virtually eliminated* because there is no atomization by compressed air, no lint-collecting oil film on machinery or picker room walls.

If you are located anywhere in the principal textile areas of the U. S., a Texaco textile engineer, specializing in fibre conditioning, will be glad to give you full information. Call the nearest of more than 2300 Texaco distributing plants in the 48 States, or write: The Texas Company, 135 East 42nd Street, New York 17, N. Y.

This 20-page booklet tells the whole story. Write today for your copy of "FIBRE CONDITIONING WITH TEXSPRAY COMPOUND."

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

TUNE IN THE TEXACO STAR THEATRE WITH JAMES MELTON EVERY SUNDAY NIGHT—CBS

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Classified According to Reader Interest

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Front cover map copyright by Hagstrom Co., Inc., Mapmakers, N. Y. C.

THE *Long-Range View*

Steward versus Overseer

An important matter in the negotiation of labor agreements apparently is being given too little attention by management. This is the clause which establishes the first step in the consideration and adjustment of grievances.

Unions are usually anxious that the employee first take his grievance to the union steward, who is a machine operative or other production man elected or appointed to represent the union employees in the department in which he works. They want it to be the steward who takes the grievance to the foreman.

The unions' reasons are obvious.

No doubt the most important one lies in the expectation that the foreman will consider a complaint from the steward as "official" and will feel that the whole power of the union stands behind it. This will be true even if the steward presents his case courteously and diplomatically, as he has probably been instructed to do.

Also, the aggrieved worker may be quite ignorant of the details of the agreement which the union and the mill have signed. The steward, on the other hand, is supposed to be very familiar with the entire statement and he is expected to go over the various clauses with a fine-toothed comb to see how the grievance can be interpreted as an infraction of the regulations. This preliminary research is intended to avoid any brush-off by the foreman on the basis that the grievance is not covered by the written agreement.

Furthermore, the steward may have an opinion of his own as to whether the grievance is real or imaginary; and, if he feels the union would be "sticking its neck out" to advance the complaint, he may be able to persuade the employee to let the matter drop. However, this possibility is probably remote in most cases, since the steward's assignment is to serve the union members with whom he is associated. He must remain popular among his men and build a reputation for fighting their battles.

Incidentally, unions seem anxious to have as many grievances as possible settled at the foreman level; and therefore their stewards are given some degree of instruction in salesmanship. Most workers lack sales training and ability and, in disputes, are likely to "rub the foreman the wrong way."

On top of all this, the unions profess to be suspicious of the motives of foremen who encourage workers to bring complaints to them. "Such foremen," says a CIO booklet for another industry, "are seeking to bribe workers away from the union by offering special favors on grievances brought up behind the union's back. This is an attempt to disrupt collective bargaining."

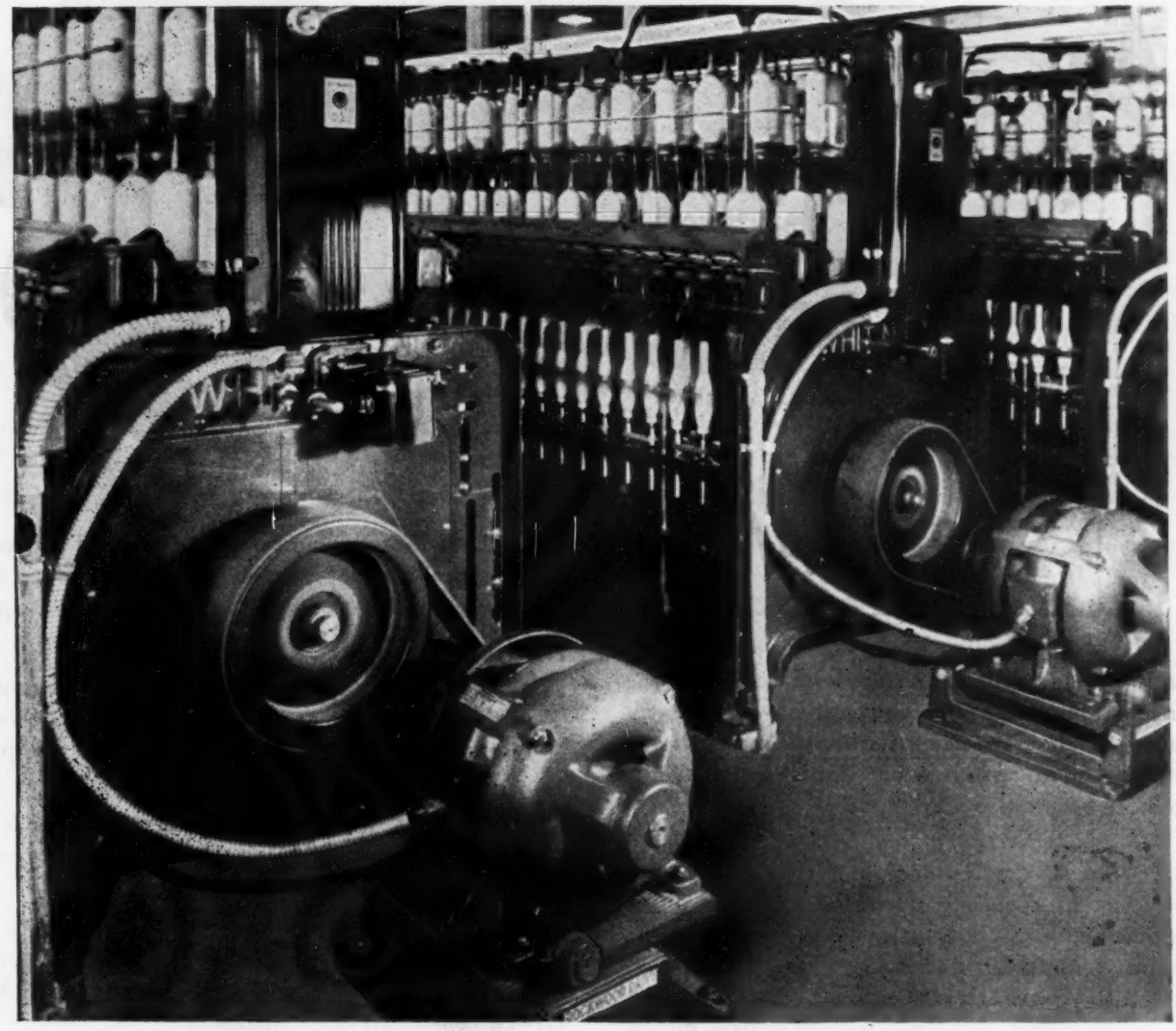
Even if evidence could be found to support in a few isolated cases such sweeping generalities as these, the counter charge could be made with as much reason that the unions on their part, by driving a wedge between the foreman and his workers, are seeking to prevent a mutual understanding of industrial problems between management and labor and are moving toward a breakdown of organization—that basic essential of all effort involving a number of people, whether risk-taking, governmental, charitable, or even communistic.

The most important thing about the whole matter, however, is the fact that the regimented intrusion of the steward between the foreman and his employees tends to render industrial peace impossible. It is well known that those business enterprises which enjoy the most cordial relations between management and labor are the ones in which the two groups know each other intimately, understand each other, and exchange views freely. TEXTILE WORLD has said before, "To reach a mutual understanding, it is first necessary to know the other fellow's viewpoint—what he is thinking and why he is thinking it. It is important to see and know his human side—to watch him sometimes smile at the same jokes you smile at, or to realize that he, too, is often worrying about his personal security and the comfort and happiness of a very human family at home—to learn, in other words, that basically his interests and yours are very much the same. A letter or a written order is bound to be read a little differently from the way it was written. *A message conveyed by a third party is almost certain to be somewhat misinterpreted.*"

The contact between management and labor is at the foreman-worker level; and every effort should be made to increase and improve that contact—not, as the unions are trying to do, decrease and weaken it. Both management and labor want a successful business capable of making profits and paying good wages. Therefore, neither group can afford to permit such a harmful practice to be established.

Edwin A. Fowle

To Keep Drive Efficiency Up
consult RHOADS ENGINEERING SERVICE



Rhoads Engineering Service, based on long specialization in the manufacture and application of leather belting, has helped many textile manufacturers to secure real savings and lowered cost per yard of cloth through increased efficiency of their drives. We can help you too, in planning a new drive or changing an old one.

Tannate-Rockwood drives have proved their exceptional reliability during recent years in maximum production. Tannate belts have unusual grip. They resist moisture, machine oils and many weak chemicals. Little maintenance is required to assure long life.

RHOADS *Tannate* WATERSHED LEATHER BELTING

J. E. RHOADS & SONS *Established 1702*

35 North Sixth Street, Philadelphia 6, Pa.

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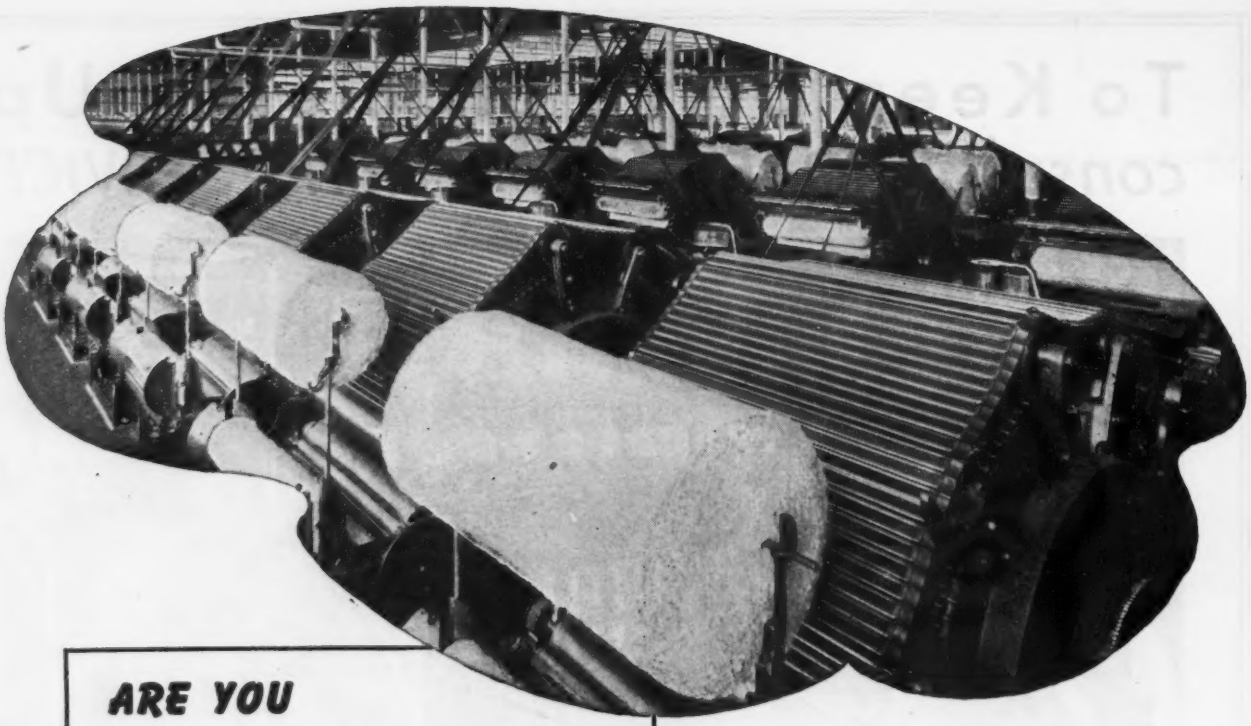


ARE YOU SHORTHANDED?

Lack of help needn't interfere with your card production. Equipping your cards with the Saco-Lowell *Continuous* Card Stripper will enable you to assign your "Card Strippers" to more essential work.

The Saco-Lowell *Continuous* Card Stripper is a valuable investment, especially during these times, for it means that help ordinarily assigned to stripping cards can be used for other duties elsewhere in the card room. But the Saco-Lowell *Continuous* Card Stripper does more than save on help — it saves cotton, makes possible a better sliver, increases production as much as 2 per cent, insures a cleaner card room — and at the same time, earns a good return on your investment.

Even though your cards are equipped with other types of strippers, you will find it profitable to use the Saco-Lowell *Continuous* Card Stripper.

IT WILL SAVE YOU . . .

all the time lost in stripping the cylinders; most of the cotton lost as cylinder strips; the power required to operate high-duty vacuum pumps.

AND OF GREATEST IMPORTANCE . . .

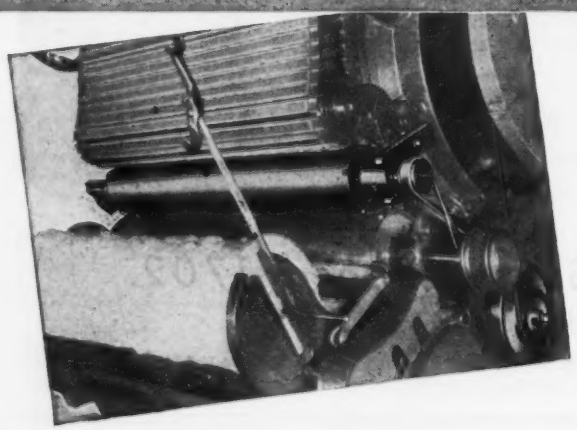
it will release from one to two men (now needed for stripping each 50 to 100 cards) for work elsewhere in the mill.

Write for catalog — and request also a Saco-Lowell survey. It will show you how you can earn as much as 80 per cent annually on your investment using Saco-Lowell *Continuous* Card Strippers.

SACO-LOWELL SHOPS • BOSTON, MASSACHUSETTS

Charlotte *Greenville* *Atlanta*

SACO-LOWELL *Continuous* CARD STRIPPER



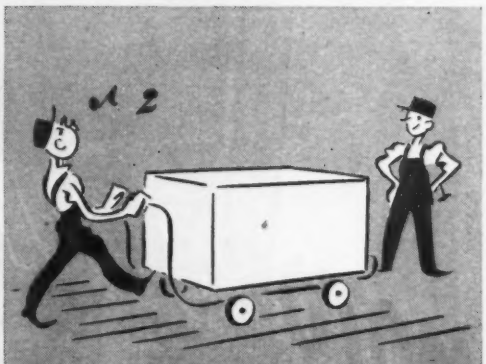
In mills equipped with the SACO-LOWELL Continuous Card Stripper, the cylinder is stripped at intervals ranging from 40 hours, when running low grade stock, to 200 hours, when running the better grades. The doffer is generally stripped every 8 hours without stopping the card. Since the surface of the cylinder is always clean with no waste packed between the wires, the sliver is generally cleaner and more uniform. Practically all of the cotton lost in the form of cylinder strips, a loss inherent in every other method of stripping, is recovered, except the extremely low percentage lost when the cylinder is stripped with the conventional brush just before grinding.

FIGHT FRICTION!

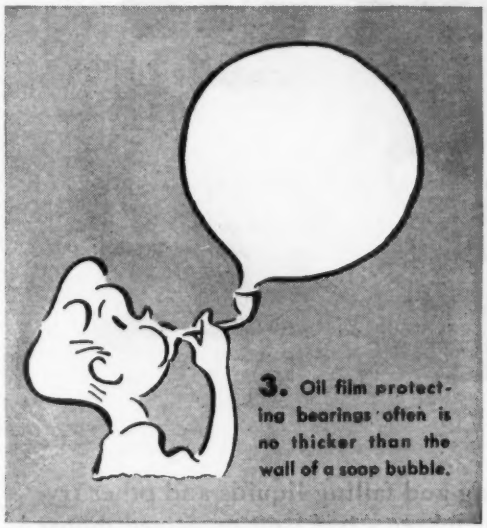
It's Electric Motor Enemy No. 4...

in Allis-Chalmers' new "Guide to Wartime Care of Electric Motors".

1. Like a motor without oil. Simple! Yet every day hundreds of workers overlook the importance of adequate motor lubrication.

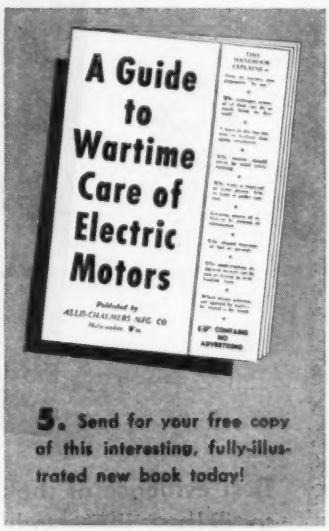


2. Like a motor with oil. Pictures like these make motor maintenance easy to put across in training new employees.



3. Oil film protecting bearings often is no thicker than the wall of a soap bubble.

4. And if pressure is too great, the film can fail just as suddenly and completely.



5. Send for your free copy of this interesting, fully-illustrated new book today!

ONE OF A MOTOR'S most dangerous enemies is friction. In peacetime, instructions for guarding against it were based on 8-hour-day, 6-day-week operation. Today, with motors working up to *3 and 4 times* as many hours a week, those instructions are dangerously obsolete!

To help put U. S. motor maintenance on an efficient wartime footing, Allis-Chalmers has published "Guide to Wartime Care of Electric Motors". This valuable book explains the *9 main enemies* of electric motors . . . tells you how to fight them. Its recommendations are simple and practical . . . ideal for training new men or as a review for experienced men. Book is fully illustrated with stimulating, understandable sketches like those shown above—*contains no advertising*. Over 100,000 copies in use by industry and armed forces. Send for your *free* copy today! ALLIS-CHALMERS MFG. CO., MILWAUKEE 1, WIS.

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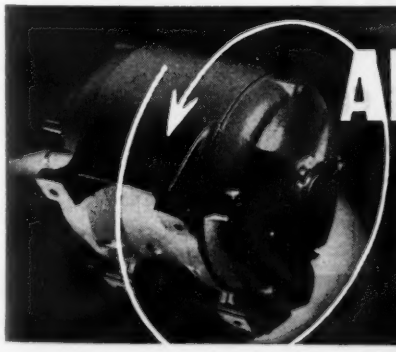
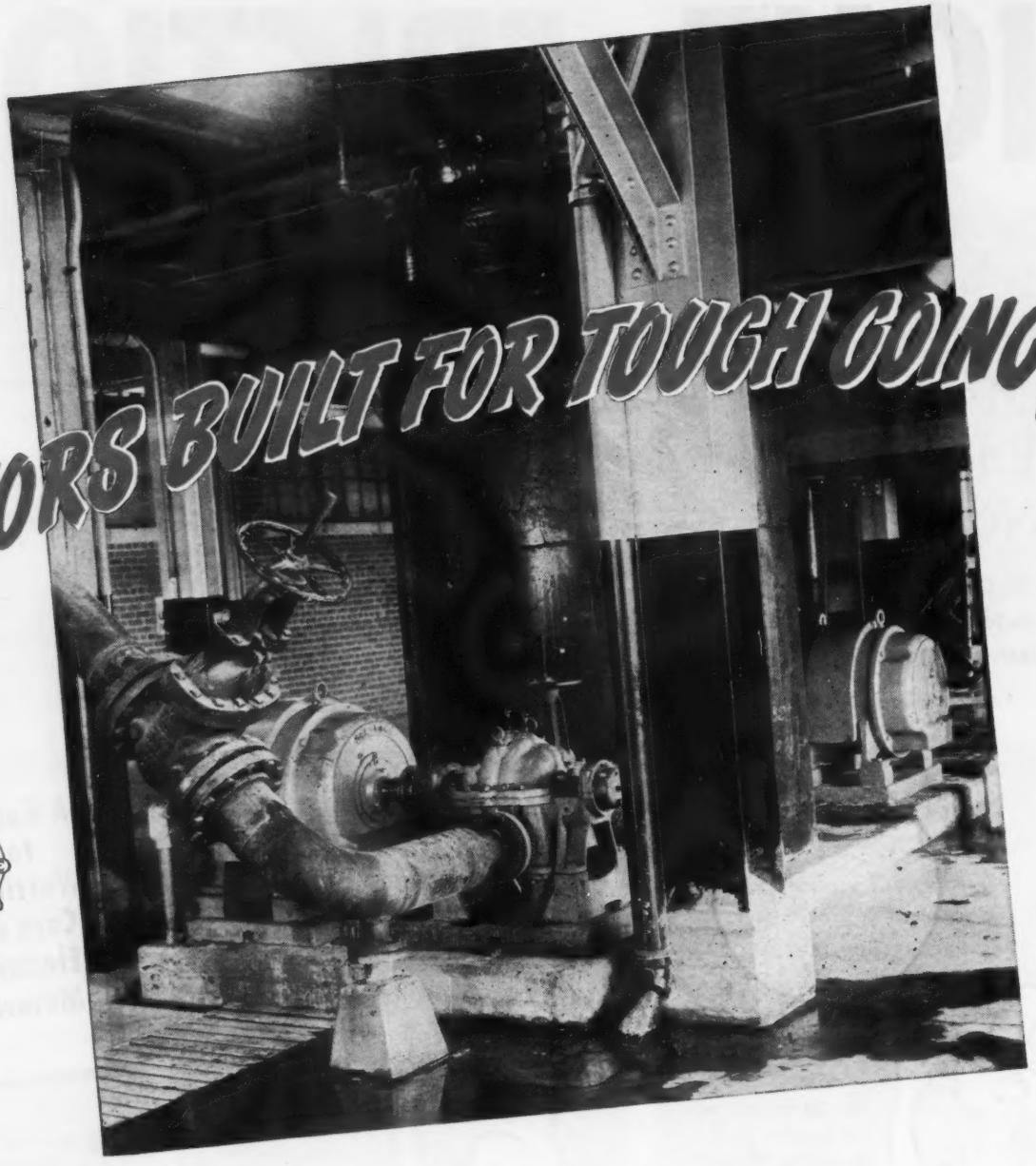


ALLIS-CHALMERS MOTORS

When you do need new motors, look into the strength, solidity and all-around protection of the new "Safety Circle"—protected top, sides, ends and bottom.

WE WORK FOR VICTORY — WE PLAN FOR PEACE

MOTORS BUILT FOR TOUGH GOING!



Best evidence of the ability of Reliance Motors to deliver the goods under difficult operating conditions is the number of these sturdy motors at work on extra tough jobs in many industries.

Reliance fully-enclosed and splash-proof motors are standing up and giving fully satisfactory service in the midst of acid fumes, heavy moisture, splashing and falling liquids and other trying situations where a less well protected motor would soon fail.

It's a good rule to talk over motor problems of this or any other kind with a Reliance Application Engineer. He has a lot of specialized experience and will be glad to help you all he can.

RELIANCE A·C D·C MOTORS

RELIANCE ELECTRIC & ENGINEERING CO.

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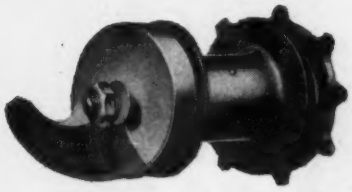
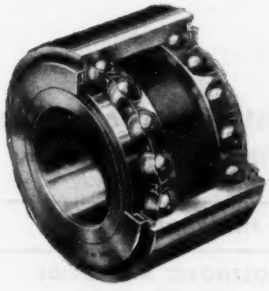
"MOTOR-DRIVE IS MORE THAN POWER"

FAMOUS "FIRSTS" by NEW DEPARTURE



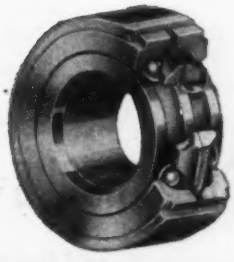
First Bicycle Coaster Brake

First Yellow Taxicab



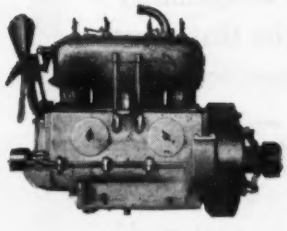
First Self-Sealed Lubricated-for-Life Mine Car Bearing

First Conveyor Roll Bearing



First Dual-Purpose Ball Bearing

First Self-Sealed Bearing Lubricated-for-Life

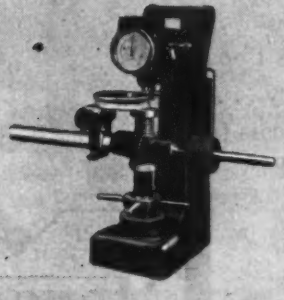


First Engine with Cylinders Cast en Bloc

First Successful Treadle Roll Bearing for Textile Looms

First Fan and Pump Shaft Bearing Self-Sealed and Lubricated-for-Life

3295



Rockwell Hardness Tester

The name New Departure aptly describes an organization whose thought and action has ever been in advance of its time.

A partial record of the "new departures by New Departure" is reported on this page.

Well over 300 million New Departure ball bearings are in this war, and we will stay with this task until the job is done.

Your future use of ball bearings might well take advantage of New Departure's creative engineering.

Nothing Rolls Like a Ball

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT • DETROIT • CHICAGO • LOS ANGELES

PURE PHOSPHORUS=BETTER TEXTILES

Preference by mills and finishers for phosphoric acid and phosphates from better than 99.9% purity Monsanto phosphorus indicates more than just plain buying shrewdness . . . taking the highest quality obtainable, especially since it costs no more!

Textiles today are so much a product of chemistry that it has become more and more imperative that every element entering into the multiple and complex equations of their manufacture be *pure*.

For example: It is important that the Sodium Phosphates, used in jigs and becks in the dyeing operation, contain minimum iron and other impurities that could dull or throw colors off, or in any way make today's run different from tomorrow's.

That's why Monsanto, world's largest producer of quality phosphoric acid and phosphates for food and pharmaceuticals and processing industries, is also one of the prime suppliers of textile phosphates.

For complete information on Monsanto's Phosphoric Acid and Phosphates for the textile industry . . . or any of Monsanto's exciting new series of chemicals to make future textiles go further, look better, *and sell better*, write, MONSANTO CHEMICAL COMPANY, St. Louis, New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Cincinnati, Los Angeles, San Francisco, Seattle, Montreal, Toronto.

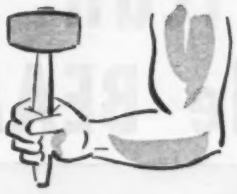
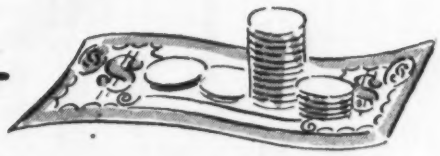
A partial list of Monsanto Chemicals for the Textile Industry

PHOSPHORIC ACID
PHOSPHORIC ANHYDRIDE
SODIUM PHOSPHATE, MONO
SODIUM PHOSPHATE, DI
SODIUM PHOSPHATE, TRI
TETRA SODIUM PYROPHOSPHATE
ACID SODIUM PYROPHOSPHATE
POTASSIUM PYROPHOSPHATE, TETRA
AMMONIUM PHOSPHATE, DI
AMMONIUM PHOSPHATE, MONO
PYRANO (FIREPROOFING COMPOUND)
CALCIUM PHOSPHATES
MAGNESIUM AMMONIUM PHOSPHATE
MAGNESIUM PHOSPHATES
ALKYL PHOSPHORIC ACIDS
ALKYL ALKALINE PHOSPHATES

About Santomerse: Monsanto's modern all-purpose surface active agent and synthetic organic detergent. This product offers unusual advantages to the textile industry. Ask for literature and samples.

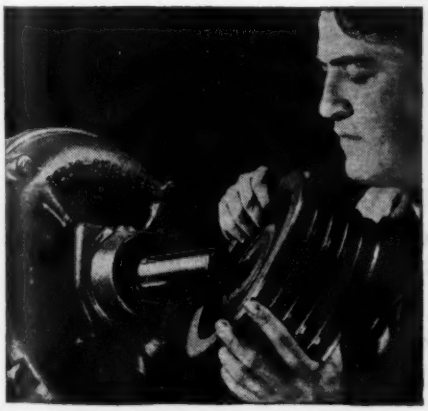
MONSANTO CHEMICALS

The Textile
SERVING INDUSTRY...
WHICH SERVES MANKIND

Trade this  for this ; save and 

No more *forcing* of sheaves. Simple wrench operates Allis-Chalmers' "Magic-Grip" — *fastest mounting and demounting sheave on the market.* Saves time, money.

SEE HOW QUICKLY, EASILY THIS NEW SHEAVE MOUNTS AND DEMOUNTS

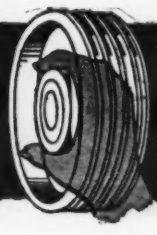


1 Place sheave on shaft. Slides on smoothly because clearance is provided by expanded bushing. There's *no* hammering — *no* forcing! Complete sheave and bushing unit comes intact—ready for quick, easy mounting.

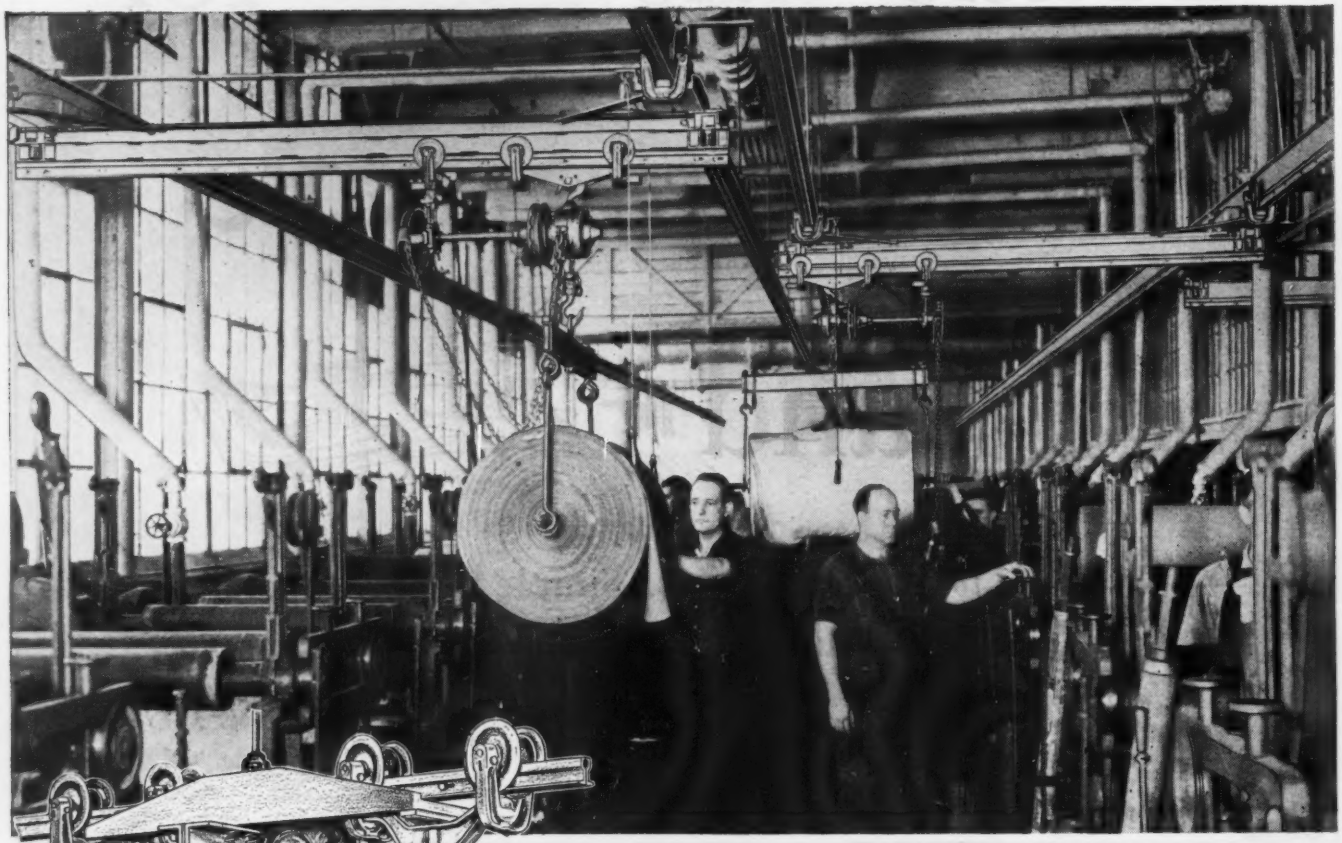
2 Slide to desired position. Sliding easily, sheave can be placed *exactly* according to straight-edge . . . giving you true alignment with resulting smooth performance. A minimum of time is required.

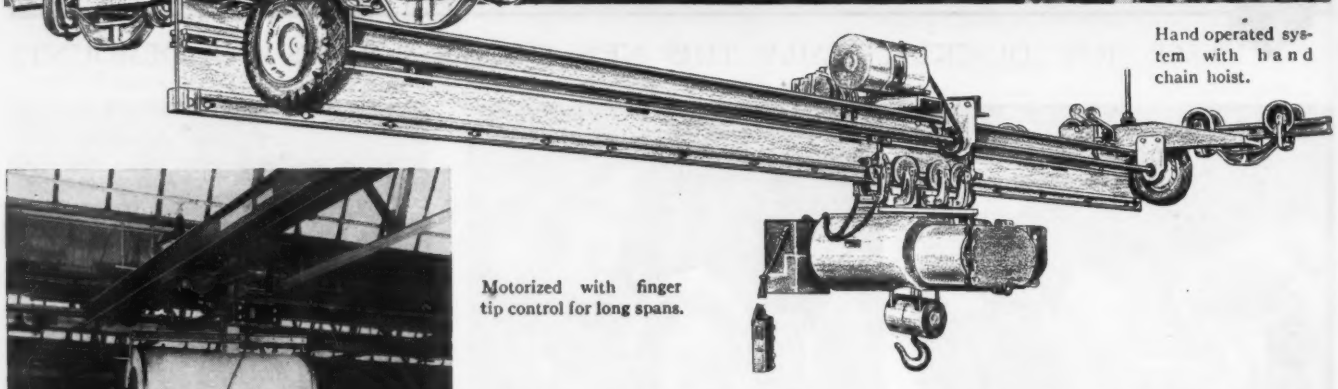
3 Tighten three capscrews — and it's ready to go! Entire sheave is locked securely to shaft and *grips like magic!* No set screws to damage shaft. Send for Bulletin B6310. Allis-Chalmers, Milwaukee 1, Wis.

A 1855

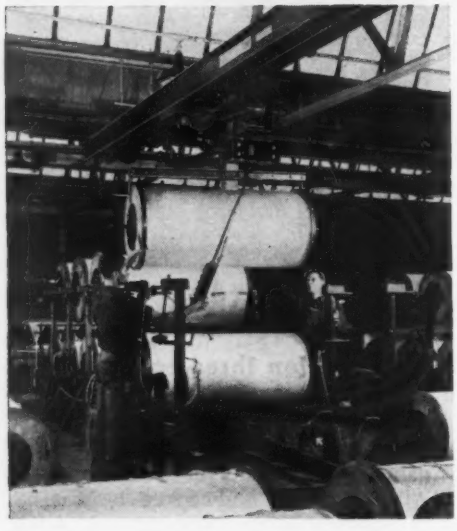
Allis-Chalmers Texrope "MAGIC-GRIP"  SHEAVES

American MonoRail CRANES Handle BEAMS with PRECISION





Hand operated system with hand chain hoist.



Motorized with finger tip control for long spans.

Beams and rolls move fast and safe when American MonoRail Cranes serve your warpers, slashers and looms. They reduce fatigue and accidents—eliminate congestion and spoilage—keep production on schedule without delay.

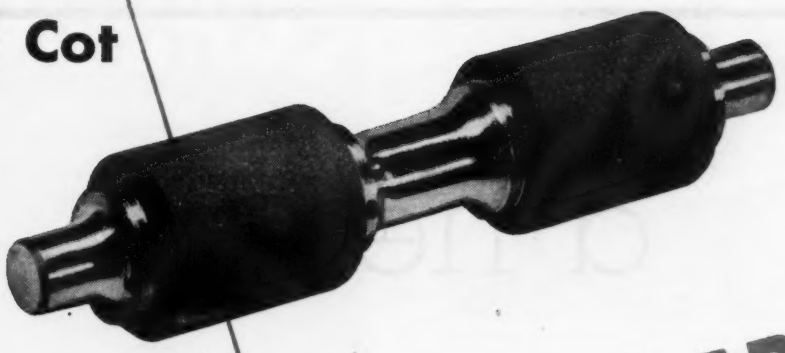
American MonoRail Cranes are built from standard parts to meet your requirements for either manual or power operation. Crane bridges can be interlocked with spur tracks for free passage between processes. Let an American MonoRail engineer show how beam and roll handling costs can be reduced in your plant.

Write for copy of Bulletin C-1 showing hundreds of illustrations.

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE • CLEVELAND 7, OHIO

This Improved Synthetic Cot



REDUCES TOP ROLL LAPPING

because it won't attract fibers . . . is non-sweating

ARMSTRONG'S new Accotex Cots offer you greater freedom from top roll lapping than any other synthetic cot. That's because Armstrong's Accotex Cots are made from a superior cork-and-synthetic-rubber composition. This material has absolutely no attraction for textile fibers. Moreover, it does not "sweat."

Besides reducing top roll lapping, Armstrong's Accotex Cots offer also the seven important advantages listed below. As a result, Accotex Cots are now serving more spindles than any other synthetic covering —helping hundreds of mills turn out more poundage and higher quality yarn.

Your Armstrong representative will be glad to help you prove the advantages of Accotex Cots by tests in your own mill. Ask him for samples, prices, and complete information. Or write direct to Armstrong Cork Co., Textile Products Department, 8306 Arch St., Lancaster, Pa.

OFFERS THESE *EXTRA* ADVANTAGES

1. **LONG SERVICE**—Accotex Cots are tough. And they can be rebuffed 3 or 4 times.

2. **GOOD DRAFTING** — Accotex Cots retain their excellent grip, because they resist slicking.

3. **REDUCED EYEBROWING** — The resistance to slicking minimizes eyebrowing.

4. **GOOD START-UP** — Accotex Cots are non-thermoplastic and resist flattening.

5. **SOLVENT RESISTANCE**—Accotex Cots are not affected by oil, water, dies, or textile solvents.

6. **SEAMLESS CONSTRUCTION** — Accotex Cots have no seams—can't break open in service.

7. **QUICK ASSEMBLY** — Accotex Cots are ready glued.

ARMSTRONG'S ACCOTEX COTS

CORK COTS · ACCOTEX APRONS

Rice Barton announces

a new **Blanket Washer**

FOR TEXTILE FABRIC PRINTING

- Eliminates backgray cloth
- Eliminates backgray driers and handling equipment
- Simple in design
- Low installation cost
- Costs little to operate
- Increases life of the blanket
- Uses no steam or steam coils
- Requires no motor to operate
- Inside of blanket kept perfectly dry

FOR ADDITIONAL INFORMATION WRITE

Rice Barton Corporation

WORCESTER, MASSACHUSETTS, U. S. A.

HOODOO SMASHERS!

America's newest and widest line of V-Belts — Allis-Chalmers' Texrope — solves problems that have hoodooed drives in almost every industry . . . see what they can do for you!

I ROUT THAT OLD BUGABOO, STATIC ELECTRICITY. I'M STATIC-RESISTING SUPER-7. MY BUILT-IN CONDUCTING ELEMENT CARRIES CHARGES TO THE MACHINE WHERE THEY'RE GROUNDED

A 1861

♪ *Tune in the Boston "Pops", Blue Network, every Sat. Eve.*

IT PAYS TO MAKE ALLIS-CHALMERS YOUR

V-BELT DRIVE HEADQUARTERS

Texrope Super-7 V-Belts result from the cooperative research of two great companies—Allis-Chalmers and B. F. Goodrich—and are sold exclusively by A-C.

HIGHER SPEEDS...MORE PRODUCTION

with AMCO Evaporative Cooling

To the accepted advantages of controlled humidification AMCO Evaporative Cooling adds the desirable benefits that come from reduced temperatures.

After thorough examination and comparison the management of more than fifty mills has selected this clean, ductless system as the most logical and efficient means of controlling temperature and comfort twelve months of the year.

You too, may be facing the troubles which accompany greater heat caused by higher machine speeds. There is something you can do about it. Call in an AMCO engineer . . . let him show you how this simpler cooling system will help you to put your mill in a favorable position to meet the coming peacetime high speed, high production competition.

Reduces excessive temperature and holds relative humidity at point best suited to fibre and process.

Assures evener yarn counts and increases breaking strength.

Speeds production in high friction (heat) areas.

No cumbersome ducts to become clogged and obstruct light.

Easy to install—minimum disruption.

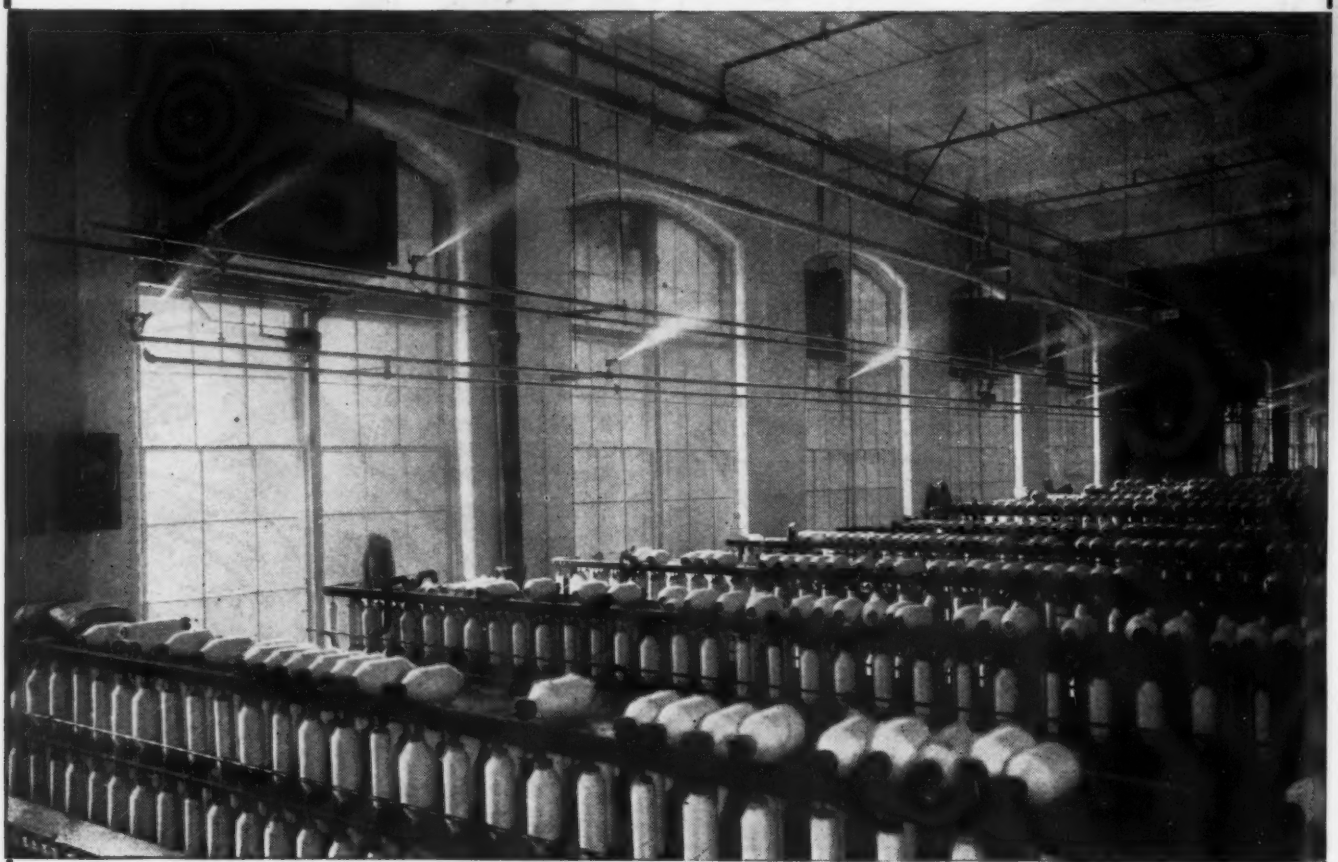
High flexibility to meet changing room conditions.

Minimum maintenance.

AMCO Evaporative Cooling utilizes your present humidification system.

Increases workers' comfort.

▼ ▼ ▼



AMERICAN MOISTENING COMPANY
PROVIDENCE 1, R. I.
BOSTON — ATLANTA — CHARLOTTE

AMCO EVAPORATIVE COOLING SYSTEMS

SANDOZ PRESENTS *The color achievement of the month*

Petal Pink BY BARBIZON

As young ideas in June turn to the gay and lively...in conversation...in colors ....."Lazy Mary" pajamas by Barbizon are giving the girls something to talk in... something to talk about.

Sandoz technicians are proud to share in Barbizon's color achievement ... petal pink, level-dyed in rayon garments tailored with distinction.

Just as today's fashion leaders are thinking ahead in style and color... so Sandoz continues to supplement their efforts by "thinking ahead with textiles." Out of Sandoz laboratories, for instance, have come the Pyrazol Fast colors which are of very good light fastness.

Recent notable additions to this range are Pyrazol Fast Orange GLL and Pyrazol Fast Green CLL. Sandoz Diazamine (developed) colors give superior wet fastness, particularly on rayons.

To fill your needs, or solve your technical problems in dyes... acid, chrome and direct, or auxiliary chemicals for all natural and synthetic fibres, come first to Sandoz. Application laboratories: New York, Boston, Charlotte, Philadelphia, Los Angeles, Toronto, with stocks in those cities. Other branches: Chicago, Paterson, and Providence.

Another color achievement next month, by another fashion leader among Sandoz customers—watch for it!

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

S ND *thinks ahead with textiles* SANDOZ

THE SAME
High Winding Speed

THE SAME
Free Yarn Delivery

Only one winding machine on the market winds all yarn sizes at the same high winding speed. That machine is the Roto-Coner*.

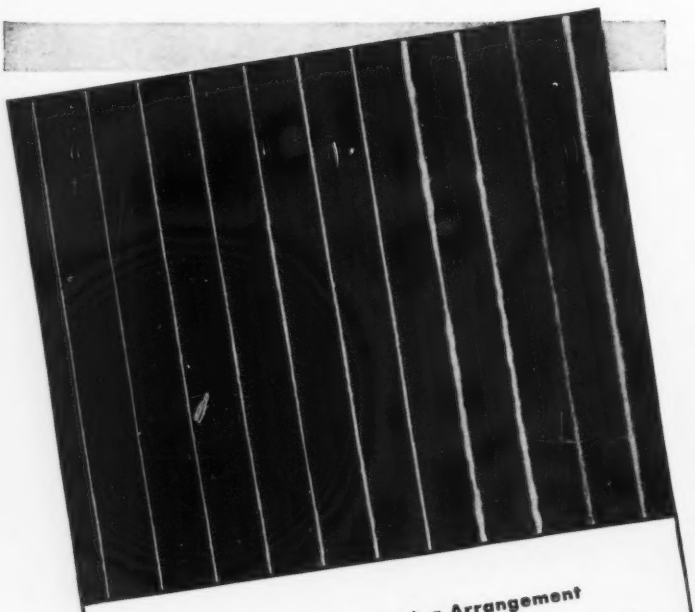
Only one knitting cone on the yarn market has the same steep-angled lay of yarn for all sizes which is ideal for free delivery on knitting machines. That cone is the Roto-Cone—the product of the Roto-Coner*.

The Roto-Coner* may also be equipped to wind warping cones, dyeing packages and parallel tubes for twisting.

*Reg. U.S. Pat. Off.

Universal Winding Company

PROVIDENCE BOSTON UTICA PHILADELPHIA
CHARLOTTE ATLANTA

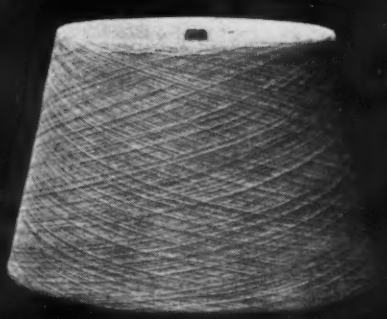


One Standard Traversing Arrangement

All Roto-Coners* equipped for paper coning have a standard Rotary Traverse. Its groove arrangement gives the same minimum number of winds for all yarn counts, fine to coarse. Because there are no cams, there is no reason for slowing down production or changing angle of wind for coarser yarns.

Uniform Shape and Quality

The Rotary Traverse—a one-piece driving drum and traverse guide—eliminates the need for frequent adjustments and also the element of wear on fast-moving reciprocating parts. Thus the usual causes of variation in cones are avoided. Yarn cleaners are set uniformly from spindle to spindle and locked against tampering and vibration.



ROTO-CONER

LEESONA REG. U.S. PAT. OFF.

Open-Wind Cones for Knitting

WARPING CONES • DYEING PACKAGES • PARALLEL TUBES FOR TWISTING

WAX MAKES THE DIFFERENCE

in this new PATENTED *maintenance finish!*

Got ready! We're a little short of materials right now—because a big percentage of them is going to war. But as soon as conditions permit, this wax-impregnated maintenance finish will be available for you —so get the important facts now!

4 ***extra*** ***advantages for your walls with***

JOHNSON'S WAX-FORTIFIED INTERIOR FINISH

1. *Rich, lustrous beauty* that only wax-fortification can give.

3. *Easier cleaning,* when finally necessary, because of the wax. Film retains its rich glow for the life of the finish. Resists caustic cleansers.

2. *Decorating cycle lengthened,* because this patented finish lasts longer. Remarkable durability resists stains and mars . . . repels dirt.

4. *High light reflection longer — better light diffusion.* Satin-smooth finish — no harsh glare. Easier on the eyes.

Cut maintenance costs — and have exceptionally fine-appearing walls with Johnson's new Wax-Fortified Interior Finish. This patented finish (which will be available in white and a variety of colors) is impregnated with evenly distributed wax — to give your walls a lustrous, satin-smooth surface with great dirt and wear resistance. It's amazingly easy to clean, too.

Simple to apply

No special preparation is necessary. And, as for application — you'll find it handles easier than ordinary paints because of the lubricating power of the wax. Also it gives broad coverage with great hiding power for marred surfaces—a true economy feature.

No repainting worries

When it finally becomes necessary to repaint, no special cleaning is required. The new coat of Johnson's Wax-Fortified Interior Finish or of regular paint will adhere easily — for the wax in no way interferes.

The versatility and special advantages of Johnson's Wax-Fortified Interior Finish make it uniquely suited to the needs of schools, hospitals, restaurants, food plants, bakeries, dairies, factories, office buildings and department stores. Complete information is yours for the asking — fill out and mail the coupon today!

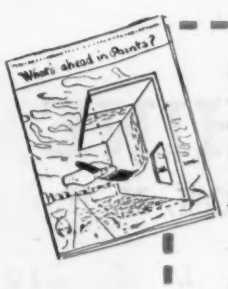
Send for colorful, informative booklet, TODAY

Made by the makers of
JOHNSON'S WAX

A NAME *EVERYONE* KNOWS

S. C. Johnson & Son, Inc., Racine, Wisconsin

Buy and hold MORE War Bonds!



S. C. Johnson & Son, Inc., *Dept. T-65*
Maintenance Products Dept., Racine, Wisconsin

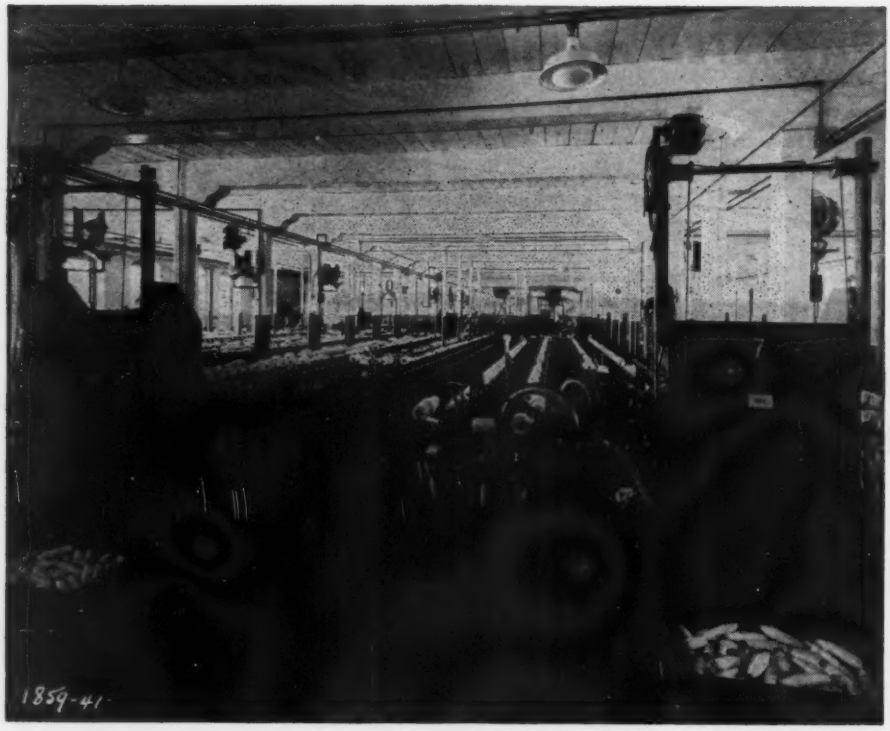
Gentlemen: I would like to know what "Wax-Fortified" can do for my walls. Please send "What's Ahead in Paints" brochure.

Name _____

Address _____

Business or institution _____

ABBOTT AUTOMATIC WINDERS



Winding Average hourly production per operator 900 to 1000 bobbins per hour

2-oz.	Bobbin	.....	112 lb. hr.
3-oz.	"	.....	169 " "
4-oz.	"	.....	224 " "
5-oz.	"	.....	280 " "
6-oz.	"	.....	338 " "
7-oz.	"	.....	380 " "
8-oz.	"	.....	448 " "

These production figures are being obtained in mills throughout the United States and Canada, and show the lowest direct labor cost of winding.

In addition there is a great saving in floor labor to supply the winders with spinning bobbins and remove wound cones or cheeses.

Supply bobbins are dumped by the doffers into a box at floor level. A lever is pushed and the box is lifted and dumped automatically into a big hopper. These are large enough to eliminate any other storage of yarn. There is no trucking of yarn up and down winder alleys and distributing it along the machines. It is all fed in at one point. Similarly cones are all doffed at end of winder, and move directly into warper creels or to twisters or automatic quillers.

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Representative, Mr. L. S. Ligon, Greenville, S. C.

SPINNING BUCKETS THAT WON'T CORRODE

Micarta is continually finding wider use in the textile industry where resilience, smooth surfaces and resistance to mild acids are a "must". Micarta is tough—lightweight—can be molded to intricate shapes and machined to close tolerances. And because it is unaffected by dilute acids, water and oils—it cannot stain delicate fabrics.

Spinning buckets of Micarta are statically and dynamically balanced — permitting travel speeds up to 10,000 rpm — without vibration. Gears of Micarta are quiet, smooth running — bearings and bushings are long wearing — whether lubricated with water, oil or grease.

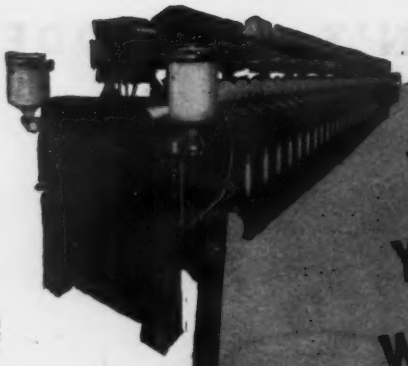
These unique properties are proving Micarta to be practical and economical for many other textile mill uses — for pirns, bobbins, wash chucks, flingers and shields.

For more complete information, ask for the Micarta Data Book, B-3148-A. Write to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-06375

Westinghouse Dynetric balancing machine, specially built by Gisholt Machine Company for balancing Micarta spinning buckets.

Micarta

WESTINGHOUSE



With the FOSTER MODEL 102, You Don't Have to Worry About WINDING SPUN RAYON

Many cotton, woolen and worsted mills are now running SPUN RAYON. Many more plan to after the war.

If your mill is one of them, you don't have to worry about winding. Use the Foster Model 102 and your problem is solved — from a quality, a flexibility and an economy standpoint.

1. This machine will wind all types of staple fibres.
2. Cutting or chafing of yarn is prevented by a micarta ball bearing idler shell on the end of the drum contacting the nose of the cone.
3. The machine will wind high twist or low twist yarns — bone dry or emulsion treated (emulsion attachment if desired).
4. It can be adjusted to wind any taper normally used, and any "lay" from 9° to 18° and traverses from 2½" to 7".
5. It will increase production 100%, compared with old models, and reduce labor cost by about ⅓, due to high winding speeds, self threading tensions, ease of doffing and empty bobbin conveyers which discharge directly into bobbin truck.
6. It can be equipped to wind knitting cones, warping cones, paper tubes or dye packages — one side tubes and the other side cones if desired.
7. The Foster Model 102 knitting cone has a convex base which prevents "nips" at the knitting machine.
8. Maintenance and repair costs are low. We use the right metal in the right place. For instance, all parts in contact with the yarn are of hardened steel. In one mill checked, annual repair costs average only about $3.50 per 100 spindle machine and no specially trained fixers are required.

CIRCULAR A-91 ON REQUEST

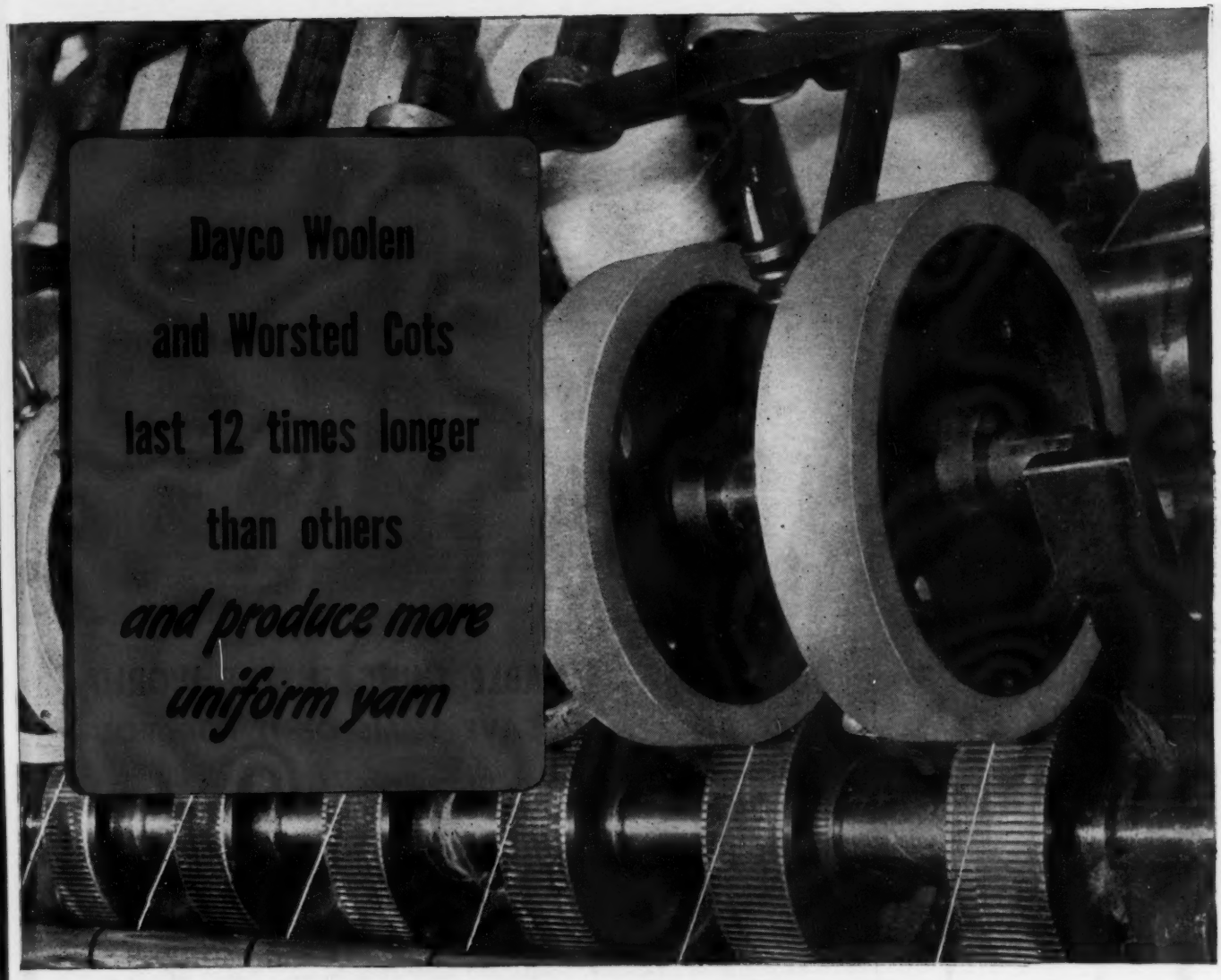
Products of the Foster Model 102

Doffing. Package holder swings out

Empty-bobbin conveyer discharging into truck

FOSTER MACHINE CO., Westfield, Mass., U.S.A.

SOUTHERN OFFICE: Johnston Building, Charlotte, North Carolina • Canadian Representative: Ross Whitehead & Company, Limited, University Tower Building, 660 Ste. Catherine Street West, Montreal, Quebec



Every year that Dayco Woolen and Worsted Cots remain in service, they establish new long-life records. Today, they're outlasting other types over 12 times!

They show no signs of grooving or other deterioration, after years of service, still maintain their *engineered* coefficient of friction and resiliency.

And records continue to come in which prove that they produce more uniform yarn!

The development of such a highly specialized product, so superior to traditional types, is typical of the continuing development work of the American Rubber Industry in the field of Synthetics. For while many products used in conventional Woolen and Worsted Cots have *depreciated,* Dayco synthetic has been *improved* to a new all-time degree of perfection!

Thus the Dayco Woolen and Worsted Cot comes to you today—the superb result of years of intensive research work by Dayton Rubber.

Put this progress to work in your mill. Insist on Dayco Woolen and Worsted Cots and other Textile products—for longer life and improved production.

THE DAYTON RUBBER MANUFACTURING COMPANY
Famous Dayco Synthetic Products Since 1934
Dayton 1, Ohio **Waynesville, N. C.**
Main Sales Office—Woodside Building, Greensville, S. C.

READ THESE OTHER DAYCO WOOLEN AND WORSTED COT FEATURES:

1. Dayco Woolen and Worsted Cots outlast others at least 12 times.
2. Simplifies production schedules. More production of wanted numbers.
3. Any combination of wool, rayon and mohair runs equally well with minimum lint.
4. Much less matching-up required since they produce highest yarn-uniformity.
5. Roll replacement is minimized.
6. They save up to 2/3 of time in applying to arbors.
7. Also save time and labor spent formerly in readjusting pressures after shutdowns.
8. Reduces power requirement.

Roll Coverings by

Dayton Rubber

REG. TRADE MARK THE DAYTON RUBBER MFG. CO.

THE MARK OF TECHNICAL EXCELLENCE IN SYNTHETIC RUBBER

ANY MILL

NEW YORK
W. S. TAYLOR
52 Vanderbilt Ave.
'Phone — Lexington 2-6060

CHARLOTTE
Branch Plant
CLIFTON WATSON
Manager Southern Sales
P. O. Box 2036—'Phone 3-7503

LAWRENCE
Main Office & Plant
P. O. Box 927—'Phone: 8194

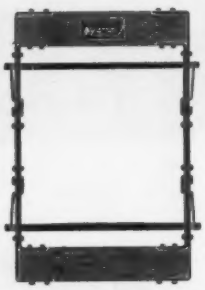
CHICAGO
ALBERT R. BREEN
80 E. Jackson Blvd.
'Phone: Harrison 7140

ATLANTA
ARTHUR HARRIS
P. O. Box 1982
'Phone — Main 2543

DALLAS
R. D. HUGHES SALES CO.
1812 Main St.
'Phone C-6283; C-6284

STEEL HEDDLES

Straight and Duplex Types (also special) of high carbon steel, nickel or cadmium plated and stainless.



HEDDLE FRAMES

Single iron ends, double iron ends, or combination ends; single or double rods; special frames to order. Metal parts zinc plated.

THE MOST VALUABLE THING IN THE WORLD

LET AN E-MAN SAVE SOME OF IT FOR YOU

The E-Man can save some of "the most valuable thing in the world,"—your time, because he's within easy 'phoning distance, because his practical knowledge enables him to understand your problems and to make suggestions, and because he can supply from *one source* many of the mill accessories that you require. Put an E-Man to work for you. 'Phone or write our nearest office . . . EMMONS LOOM HARNESS CO., Factories in Lawrence, Mass., and Charlotte, N. C. Branch offices as above. EXPORT AGENTS: Storer & Cia., Chacabuco 443-49, Buenos Aires, Argentina; A. Polak, 216, Av. Beira Mar, rooms 403 a-d, Edificio Magnus, Rio De Janeiro and Sao Paulo Brasil; W. L. Robinson, Casilla 4075, Santiago, Chile; C. E. Halaby & Co., Apartado 139, Medellin, Colombia; J. M. Perez Pena, Apartado 1611, Habana, Cuba; Leo Lenk, Apartado 533, México, D. F. Mexico; Constantino N. Sabal, Apartado 2288, Lima, Peru; N. Marvez, Apartado 391, Caracas, Venezuela; Storer & Cia, Paysandú 1202, Montevideo, Uruguay.

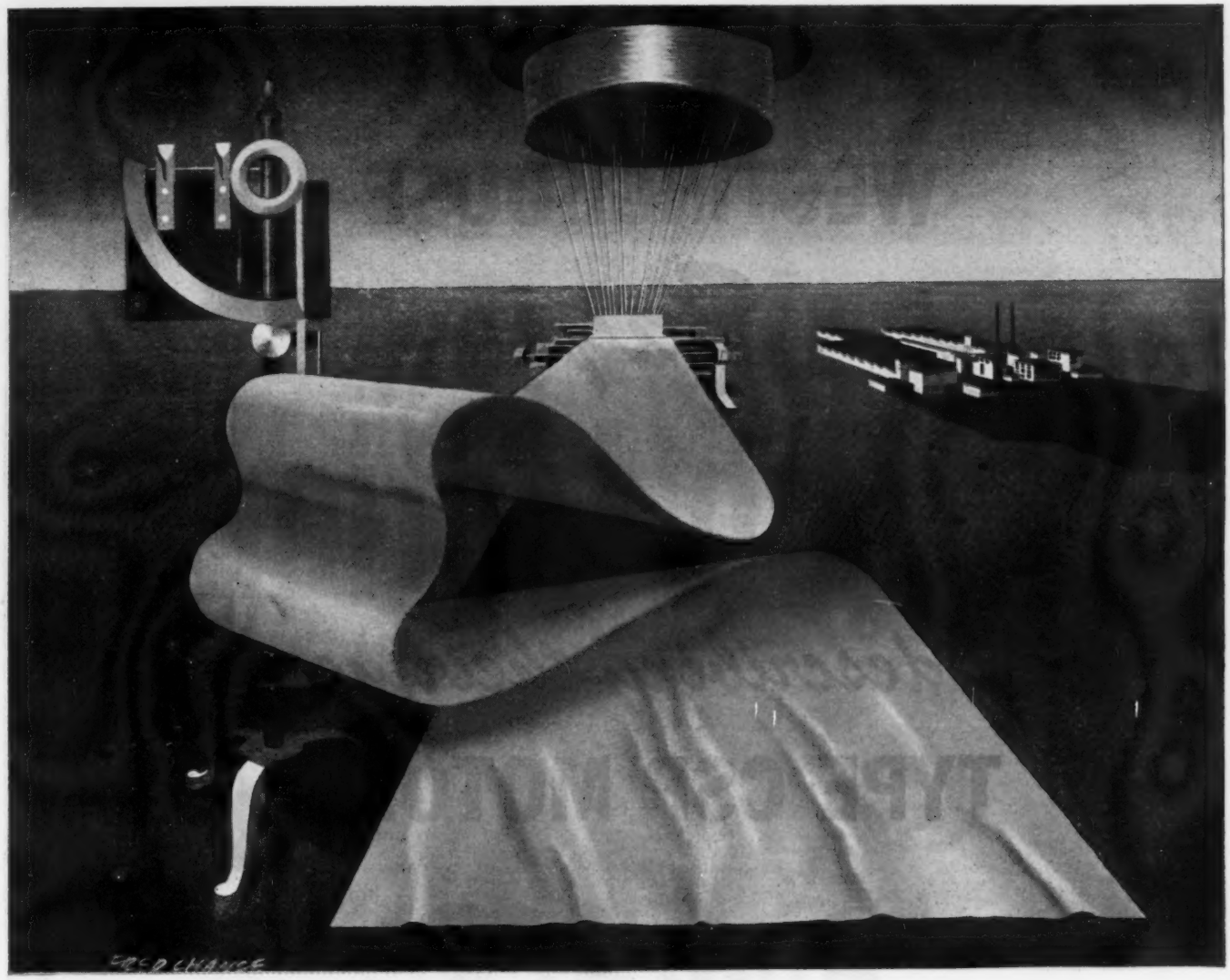
EMMONS WEAVE ROOM ACCESSORIES

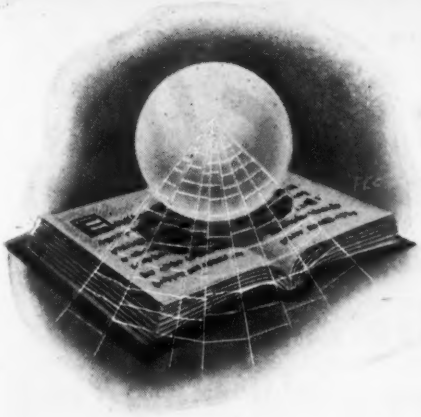
REEDS — Pitch-band and all metal types. Air space accurate within .01 inch; dent thickness within .001 inch; super-smooth. Prompt service.

OTHER PRODUCTS

Wardwell Loop & Doll Pickers,—plain, spotted or countersunk,—rawhide face • J-W Picker Aprons & Conveyors • Warper and Lease Reeds • Slasher & Striking Combs • Mail Harness • Selvage Harness • Jacquard Heddles • Mending Eyes & Twine.

"CHAFELESS CORD" COTTON HARNESS — Look for 1 red between 2 green stripes. Glass smooth, flexible, strong. Finest staple cotton; 5 coats carefully baked varnish.





NO NOSTRADAMUS NEEDED

WITHOUT BENEFIT of crystal ball or oracle, we can pretty closely foresee the future of rayon. Judging from achievements of the industry in the past, plus the great progress made during wartime, these predictions seem plausible...

Rayon's two great assets, Conformability and Versatility, will be greatly amplified after the war.

A closer cooperation between rayon chemist, textile manufacturer and designer or engineer, will result in maximum conformability of the product to its purpose.

Special finishes will impart every desirable quality to rayon.

Blending of fibers, synthetic with natural, synthetic with other synthetics, will bring the special properties of each to the betterment of all.

Industrial uses for rayon will be expanded—the vast tire cord field being just one among many.

Equipment designed especially for the fabrication of rayon will be developed.

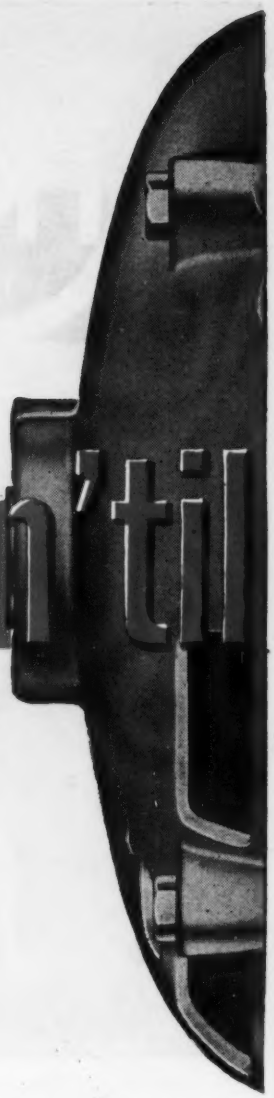
★ ★ ★

These predictions point the way toward rayon's future. New methods, new uses, new markets loom on the horizon. And always, hand in hand with the growth of rayon, goes our rising standard of living.

Tu·bize

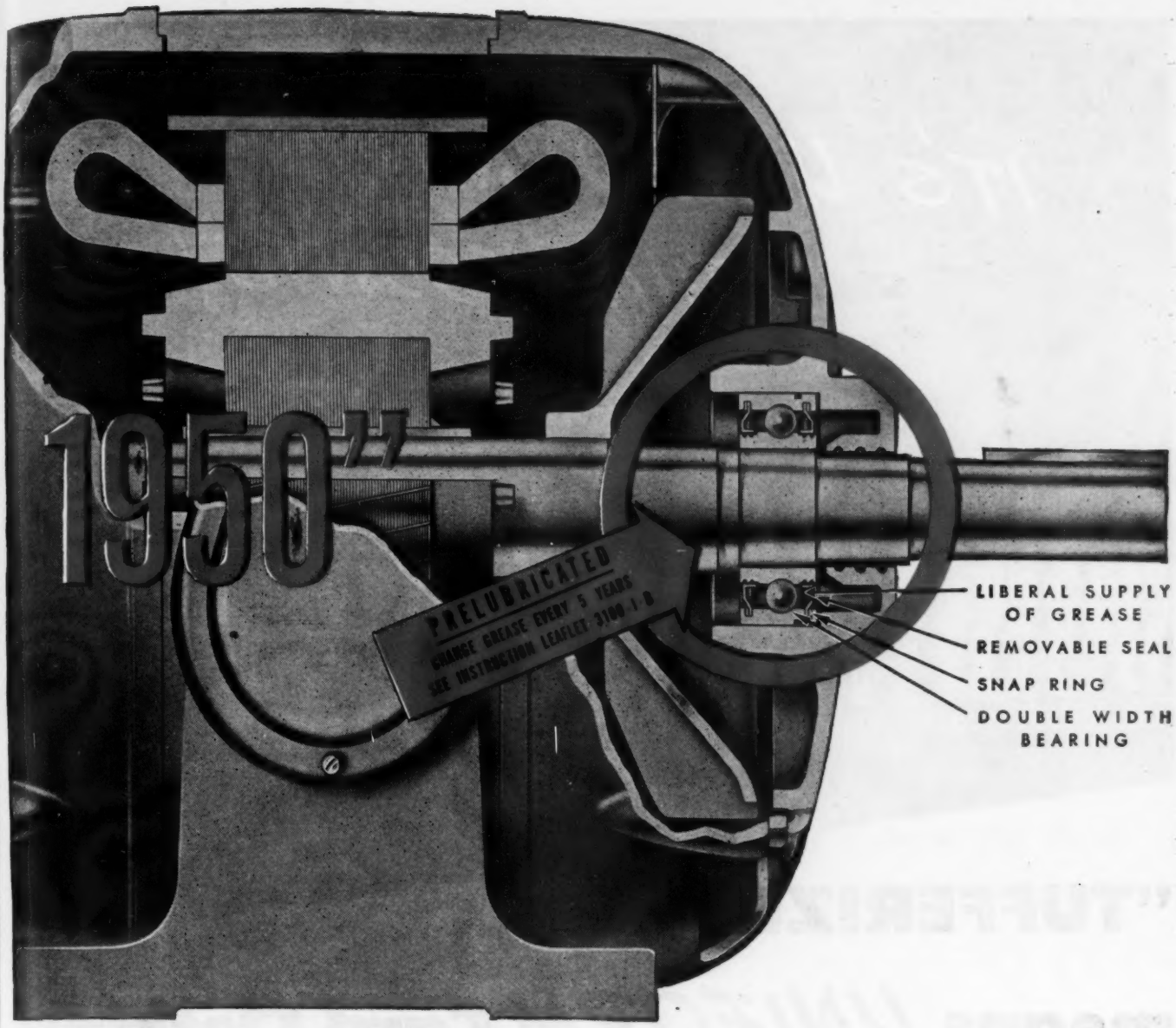
TUBIZE RAYON CORPORATION • 2 PARK AVENUE, NEW YORK 16, N. Y. • *Acetate and Viscose Rayon Yarns and Fabrics*

WESTINGHOUSE
Says
"No Lubrication 'til
in describing their new
TYPE CSP MOTORS

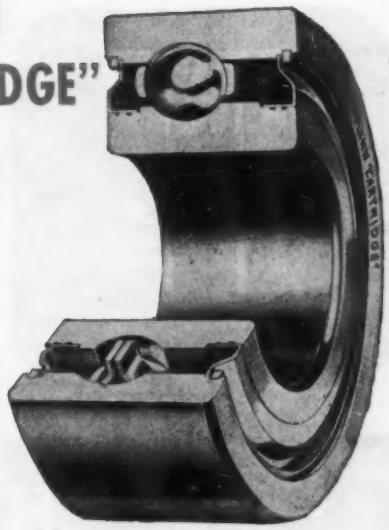


AND BROTHER THEY AIN'T KIDDING!!

Bearings by NORMA



The performance of NORMA-HOFFMANN DOUBLE-WIDTH PRELUBRICATED "CARTRIDGE" BEARINGS in actual field service over the past eight years emphatically supports this statement.



PATENTED

-HOFFMANN

NORMA-HOFFMANN BEARINGS CORP'N. STAMFORD, CONN. *Founded* 1911

Field Offices: NEW YORK • CHICAGO • CLEVELAND • CINCINNATI • PITTSBURGH • DETROIT • LOS ANGELES • SAN FRANCISCO • SEATTLE, WASH.

IT'S UNIFORMITY THAT COUNTS!

"TUFFERIZED" means *UNIFORM* Card Clothing

Uniformity of performance . . . quality performance . . . is assured whenever the world-famous Radio City Rockettes do their precision routines. And Tufferized Card Clothing, too, with its flat, accurately-formed crowns, made of the finest steel wire . . . cut *even* in length . . . spaced *evenly* . . . and set parallel in the famous TUFFER foundation . . . assures UNIFORMITY of performance—quality performance!

Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strickles, Emery Fillets Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant—Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles.

TUFFER CARD CLOTHING

HOWARD BROS. MFG. CO.

WORCESTER, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Austin **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2

FOR YOUR PEACE-TIME GARMENTS—

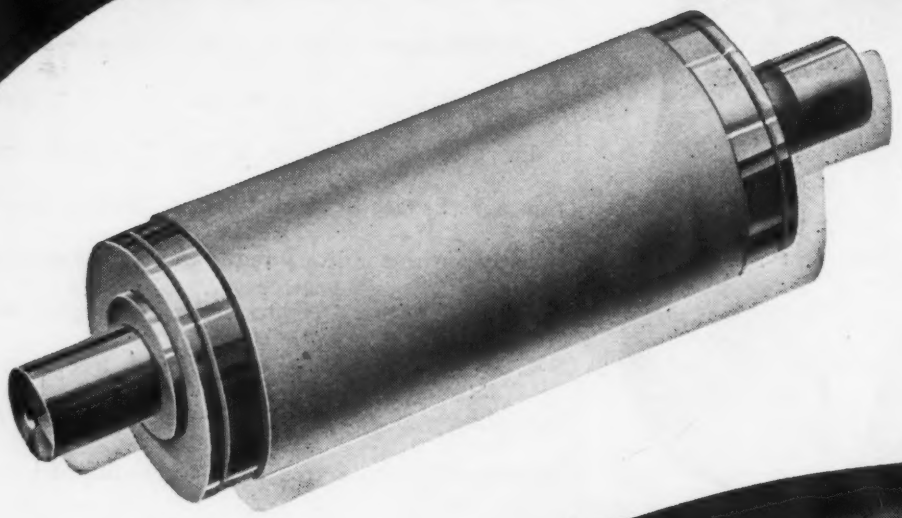
greater beauty, comfort and wear with S·C·T Cotton Yarns

When Peace releases S-C-T Cotton Yarns for civilian garments, you can look to these fine yarns for greater beauty, comfort and wear. At present, military orders take most of S-C-T Yarn production for the needs of our Armed Forces. Just as quickly as these military requirements are reduced, we shall be prepared to serve you again with S-C-T Yarns—the uniformity and free-running smoothness of which will be safeguarded by our traditional control from raw cotton to finished cone.

Secure the Peace with Extra War Bonds

STANDARD *Durene*® • SELO • PREEMO • COMBED SAKS • THREADS

PERKINS RESEARCH
keeps pace with INDUSTRIAL PROGRESS



PERKINS
CALENDER ROLLS

B. F. PERKINS & SONS, INC.
HOLYOKE · MASSACHUSETTS

An old story with a new twist

In the rayon industry, famed for its many new developments, tire cord made of rayon yarn is now an old story but Industrial gives it a new twist–an UP-twist.

Thanks to the exclusive properties of "Continuous Process", Industrial's TyronYarn is delivered, fully stretched and processed, on bobbins instead of the large beams used in conventional methods.

Hence, Tyron may be UP-twisted, dispensing with the rings, travellers, and greasing of the down-twist process. Our way, the yarn travels only a few feet, receives a uniform twist under less tension, is cleaner, subject to less surface abrasion, and is wound onto large knot-free packages that require no separate spooling operation.

UP-twisting is a typical example of many contributions of the "Continuous Process" to greater rayon-making efficiency, and a commentary on the skill and resourcefulness Industrial is devoting to chemical, mechanical and textile phases of rayon production.

it's a new twist in UP-twisting Remember it!

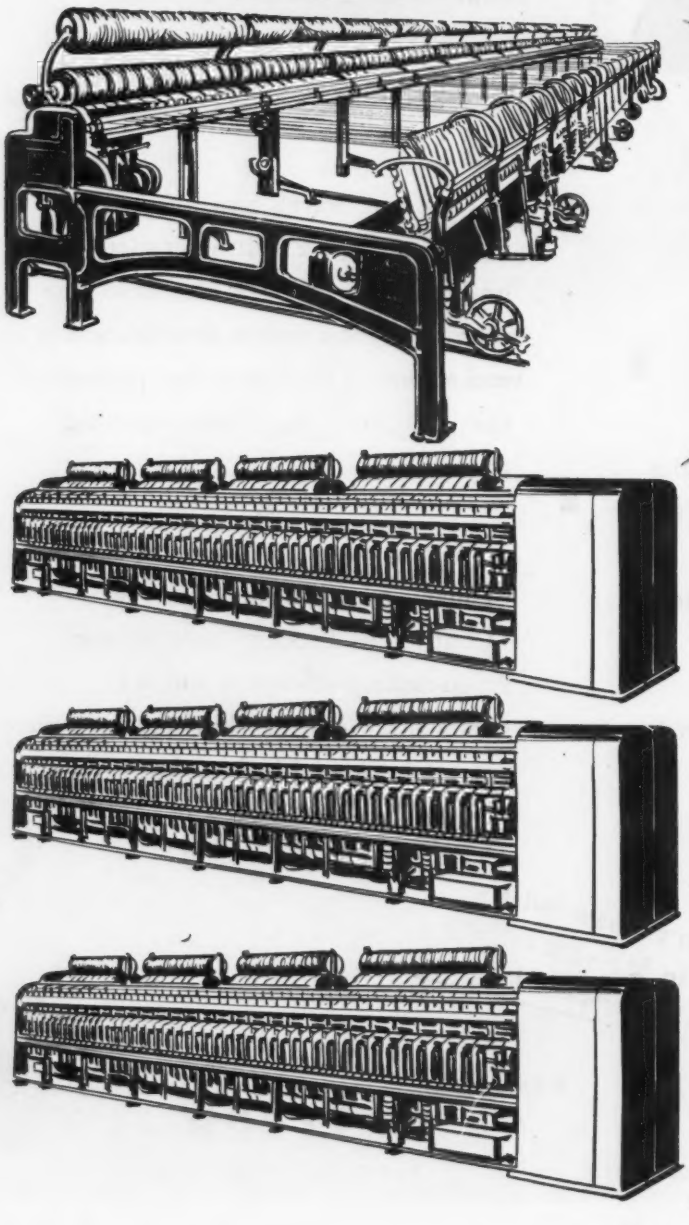
Industrial RAYON CORPORATION
CLEVELAND, OHIO
NEW YORK OFFICE 500 FIFTH AVE.

MAKERS OF
*Spun-lo RAYON YARN AND CLOTH
and
*TYRON YARN, CORD AND FABRIC

*Reg. U. S. Pat. Off.

J & B *Modernized* MULES

THEY SAVE ABOUT 75% ON ORIGINAL INVESTMENT, OVER RING SPINNING FRAMES WITH COMPARABLE CAPACITY



FOR INSTANCE

It takes only ONE 360 spindle, 2¾" gauge, J & B Mule to produce 375 lbs. of 2¼ run all wool mix, with 450 turns of twist to 74", in an eight-hour day.

WHEREAS it takes THREE 120 spindle 5" gauge spinning frames to produce only 300 lbs. of the same yarn in the same time. And the 3 frames cost about 75% more than one mule and require over 26% more floor space.

Original investment is by no means the only thing to consider when purchasing wool spinning equipment, but on 12 other counts also J & B Mule Spinning is superior to ring spinning. These 12 other points of superiority are as follows:–

1. The J & B Mule produces a true woolen yarn — superior in strength, elasticity, loftiness, roundness and uniformity of size and twist to that produced by frame spinning.
2. It permits inspection of the thread.
3. It will handle a much coarser roving than a frame, thereby increasing production at the card by 15 to 20%.
4. It will successfully spin short staple roving which will not hold together on a frame.
5. It requires less horse power than a frame.
6. Spindle for spindle, it will produce as much yarn as a frame, due to a practical operating speed and negligible breakage.
7. The cost of the yarn produced is at least ½ that of yarn produced on a frame.
8. Its cost of upkeep is exceptionally low.
9. The J & B filling package does not require rewinding for an automatic loom.
10. Changes for spinning different types of yarn on the J & B Mule are easily and quickly made.
11. Mule bobbins cost less than frame bobbins.
12. The J & B Mule requires less floor space per lb. of yarn produced than other methods of wool spinnng.

JOHNSON & BASSETT, INC.

ESTABLISHED 1870

WORCESTER, MASS. U. S. A.

J. K.'s digestion is considerably improved...

J. K.'s spot at the head man's desk looks good from a distance. But like any top textile executive today, he's under constant pressure from every angle, and the grief he has to shoulder has been doubled and redoubled. It's not surprising that his stomach did frequent nip-ups from nervous indigestion.

The M.D. wasn't much help. He counseled less worry and more time away from the desk – which is very nice if you can do it.

Strangely enough, J.K.'s digestion was improved by a man* who hadn't doctored anything but a sick spinning frame in his life.

Of course, J.K. isn't completely cured – won't be till the war's over – but he certainly appreciates the relief!

*THE VICTOR SERVICE ENGINEER is the man who doctored J.K.'s digestive disorder . . . by remote control. Though he is seldom seen in the front office, the results of his consultations with spinning and twisting supervisors show up there quickly, in the records – of better production and fewer rejects – lower costs – and lower turnover of spinning and twisting hands.

YOUR WHOLE MILL OUTPUT has to pass through travelers. That's why the resourceful advice of this Victor "specialist" has such far-reaching results. And that's why the industry's ablest operators have chosen Victor Travelers for over 8,000,000 spindles.

NEXT TIME YOUR SPINNING GOES "SNAFU", don't call for the bi-carb . . . call the nearest Victor office – for prompt service!

Victor Ring Traveler Company

PROVIDENCE, R. I. — 20 Mathewson St. — Tel. Dexter 0737

GASTONIA, N. C. — 173 W. Franklin Ave. — Tel. 247

VICTOR Ring Travelers

IN YARN DYEING, AS IN AUTOMOBILES, BUY *Uniformity!*

Buy a standard make of automobile; no matter where you get it, the quality is the same; the 100th model off the production line is just as good as the first.

It pays to buy Franklin Process Yarn Dyeing for similar reasons. If you use standard shades, it makes no difference whether you buy in Providence, Philadelphia, Greenville or Chattanooga; the colors will finish the same (if properly handled) and will have the same fastness. That's because all Franklin Process plants use identical formulas for standard shades and dye by the same method – the famous Franklin Process.

Neither time, geography, nor a change from one plant to another are obstacles to color uniformity, when you use Franklin Process. Also unequalled yarn dyeing capacity is at your disposal, as well as great versatility of equipment, – from 1 lb. to 2500 lbs. in a single batch.

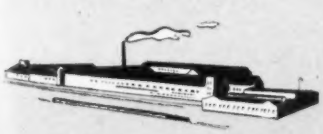
It's good insurance to use Franklin Process colors.

Franklin Process

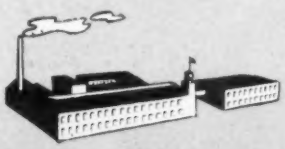
LARGEST PACKAGE DYERS IN THE WORLD

New York Representative, 40 Worth St.; Chicago Representative, 100 W. Monroe St.

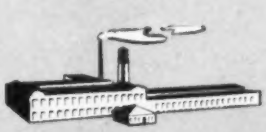
PROVIDENCE



PHILADELPHIA



GREENVILLE



CHATTANOOGA

LONG DRAFT SPINNING *Simplified*

. . . WITH THIS NEW PATENTED WEIGHTING ASSEMBLY

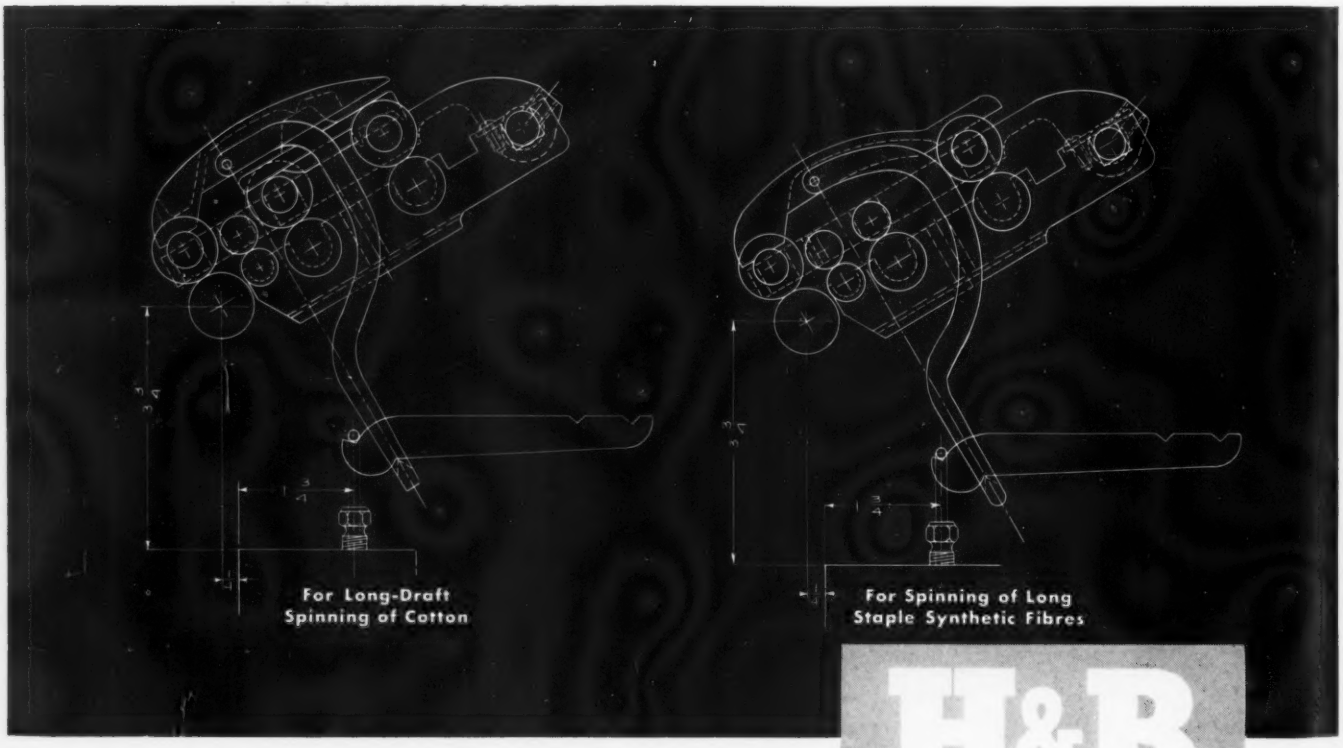
Now the H & B 4-roll Long-Draft Spinning System is easier to maintain, to operate and to change over than ever.

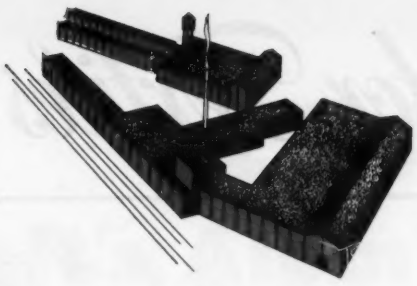
The new patented weighting assembly, designed especially for this system, is streamlined, has a minimum of parts and no adjusting screws. A flick of the brush and it's clean. Its system of oil wells and wicks saves oil, controls distribution and increases the life of roller coverings by keeping oil away from them.

Weighting distribution is positively controlled by one weight for all drafting rolls and the binding of multiple weights under the roller beam is thus eliminated.

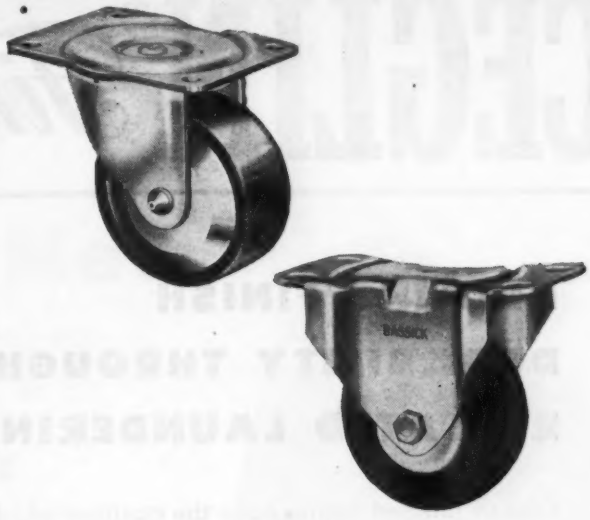
The entire assembly is interlocking and may be lifted up as one unit. This greatly facilitates changing over for the spinning of long staple synthetic fibres (further information on request).

H & B AMERICAN MACHINE CO., Plant at Pawtucket, Rhode Island; Boston Office, 161 Devonshire Street; Atlanta Office, 815 Citizens & Southern National Bank Building; Charlotte Office, 1201-3 Johnston Building.





To forget your caster troubles . . . remember to specify "Bassick"



Many of the leading manufacturers of materials-handling equipment for textile mills standardize on Bassick Casters because of the trouble-free, long life engineered into their design.

Bassick engineering includes the small but important "extras" that insure greater protection for your materials and equipment. The very size of a caster in proportion to the job expected of it justifies your serious consideration of the details of its design.

The stationary and swivel casters shown are SERIES "38" and "61". They are furnished standard with the Bassick spanner bushing construction that strengthens the horn and prevents bending or binding against the hub of the wheel. The heavy gauge steel frames are scientifically designed and structurally embossed to take the greatest abuse and shocks without distortion.

Available with the highest quality composition wheels to protect floors. All can be furnished with wheel thread guards.

Bassick offers the world's most complete line of casters. On new equipment or replacements, be sure you specify Bassick.

THE BASSICK COMPANY, Bridgeport 2, Conn. Division of Stewart-Warner Corporation. *Canadian Division:* Stewart-Warner-Alemite Corporation, Ltd., Belleville, Ontario.

Making more kinds of Casters . . . Making Casters do more

Bassick

CEGLIN* *Finish for Textiles*

RETAINS FINISH DURABILITY THROUGH REPEATED LAUNDERINGS

CEGLIN finished fabrics have the qualities which provide extra wear. This long life durable cellulose finish resists repeated launderings . . . increases fabric strength and durability . . . stabilizes shrinkage and stretching . . . and increases resistance to slippage, distortion and abrasion. CEGLIN can be applied before boil off . . . during mercerization . . . before or after dyeing . . . or as a final finish. It does not require curing nor ageing at high temperatures.

How CEGLIN *Increases the Intrinsic Value of Fabrics*

- Provides a finish of distinguished character.
- **STANDS UP UNDER LAUNDERING.**
- Adds tensile strength.
- Stabilizes shrinkage and stretching.
- Increases resistance to slippage or distortion.
- Makes possible a wide range from softness to crispness.
- Improves resistance to abrasion.
- Helpful in solving manufacturing problems.

***Made only by* SYLVANIA INDUSTRIAL Corporation**

Manufacturers of cellophane and other cellulose products since 1929

General Sales Offices: 122 East 42nd St., New York 17, N. Y. ★ *Plant and Principal Office:* Fredericksburg, Va.

SYLVANIA ARMY (E) NAVY

* ★Reg. U. S. Pat. Off.

LOOK!

It's Alemite's New

LUBRIKART

FOR INDUSTRY

A complete, portable Lubrication Department on wheels

It saves time because of less frequent returns to the oil storage room by the oiler. It provides greater assurance that lubrication will not be neglected because of lack of proper lubricants or equipment at the point of use. Pushed like a perambulator, it is intended for one-man operation and is able to travel between rows of machines or anywhere in a plant where space is limited.

FOR

Filling Hydraulic Systems,
Servicing Oil Reservoirs,
Lubricating Gear Housings,
Refilling Oil Cans,
Refilling Grease Guns.

FULLY EQUIPPED

With grease pump, hose and hydraulic coupler; hand gun loader; gear lube and oil pumps; compartments for oil cans; space for fittings, tools, waste etc.

WRITE

for complete information. Address, Alemite, 1888 Diversey Parkway, Chicago 14, Illinois. In Canada: Belleville, Ontario.

21" wide, 31" long, 37⅛" high. Mounted on five-inch ball bearing casters.

ALEMITE

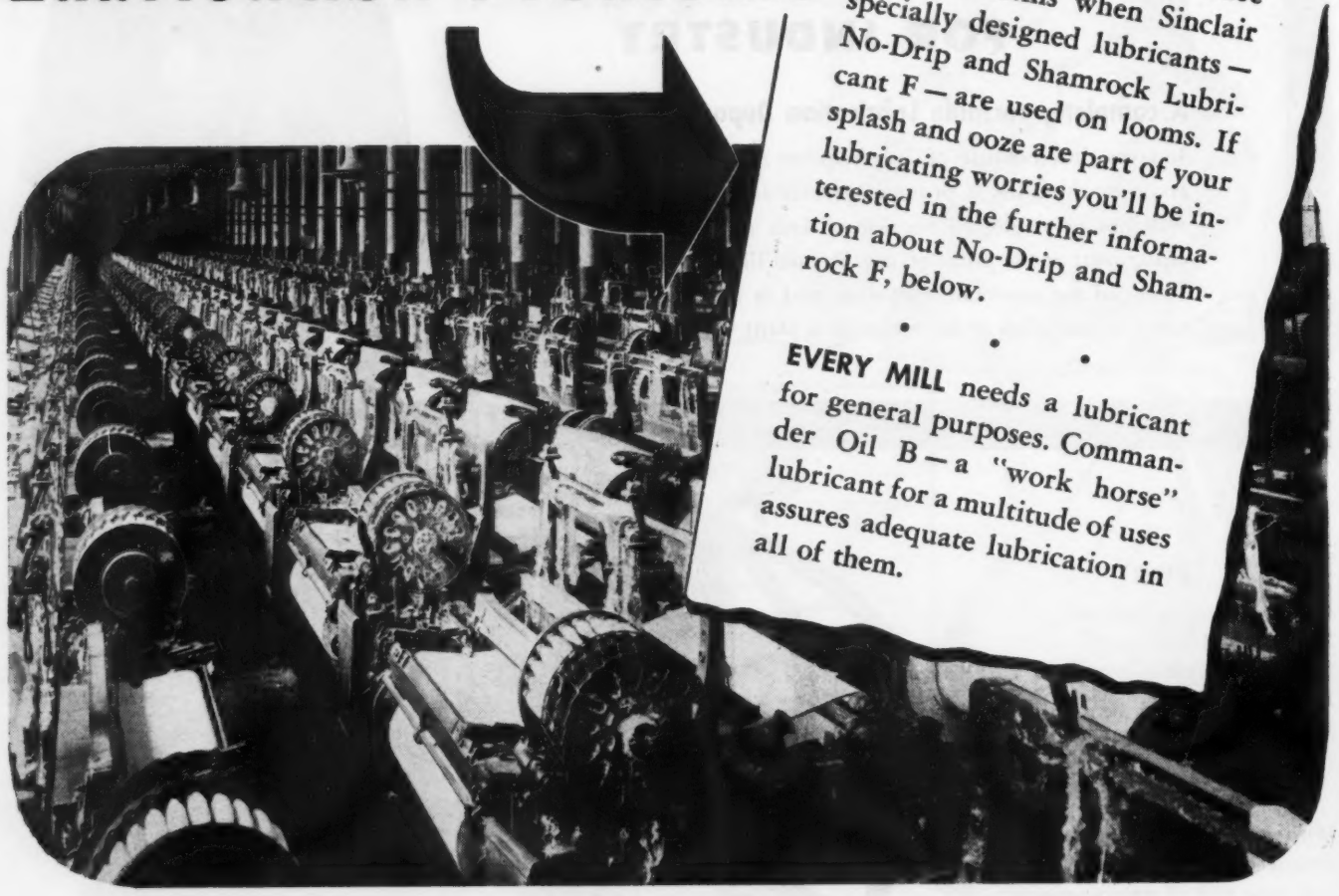
First in Modern Lubrication

Another Product of STEWART WARNER

Ask Anyone — *In Industry!*

EQUIPMENT • LUBRICANTS • LUBRICATING SYSTEMS • ENGINEERING • MAINTENANCE

SINCLAIR has the ANSWERS to Your Lubrication Problems



For Example:

LEAKAGE and THROW cease to be problems when Sinclair specially designed lubricants — No-Drip and Shamrock Lubricant F — are used on looms. If splash and ooze are part of your lubricating worries you'll be interested in the further information about No-Drip and Shamrock F, below.

• • •

EVERY MILL needs a lubricant for general purposes. Commander Oil B — a "work horse" lubricant for a multitude of uses assures adequate lubrication in all of them.

TO PROVIDE a highly efficient oil with non-leaking and splash resistant qualities for plain bearings, dobby and jacquard heads, Sinclair research developed No-Drip Lubricants. They are designed to avoid staining of warp, filling, or cloth. . . . Tendency to throw is characteristic of most greases. Sinclair Shamrock F eliminates throw in lubrication of gears, cams, and chains. Shamrock F is highly adhesive, cushions shock, and insures a good lubricating film. Shamrock F's lasting lubricating qualities make it especially desirable — fewer applications needed — in difficult-to-lubricate parts.

Have you a complimentary Sinclair Textile Flow Chart and Lubrication Guide? It's a guide to saving of time and lubrication cost.

SINCLAIR TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE SINCLAIR REFINING COMPANY, 630 FIFTH AVENUE, NEW YORK 20, N. Y.

Display in Shipper Open 'em up

when they arrive and they're ready to go to work immediately. Double purpose packages—shipping box plus product display—win dealer's approval. Just a simple setting-up operation and they go into sales action immediately—thanks to H & D's simplified construction. Each box is a master salesman, prepared by expert package engineers who know, through experience and results records, how to design the kind of sales packages retailers prefer.

H&D Post-War Packaging Idea

SHIPPER DISPLAY BOX*

Trim, attractive, compact H & D Shipper-Display boxes offer these outstanding features; safe transportation; novelty die-cuts; modern design; rich color printing; attractive displays. Make your packaging pay a profit by including it in your merchandising plans. H & D's booklet, "Pack to Attract" is full of profitable ideas. Send for your copy, today.

*U.S. PAT. NO. 2,168,280

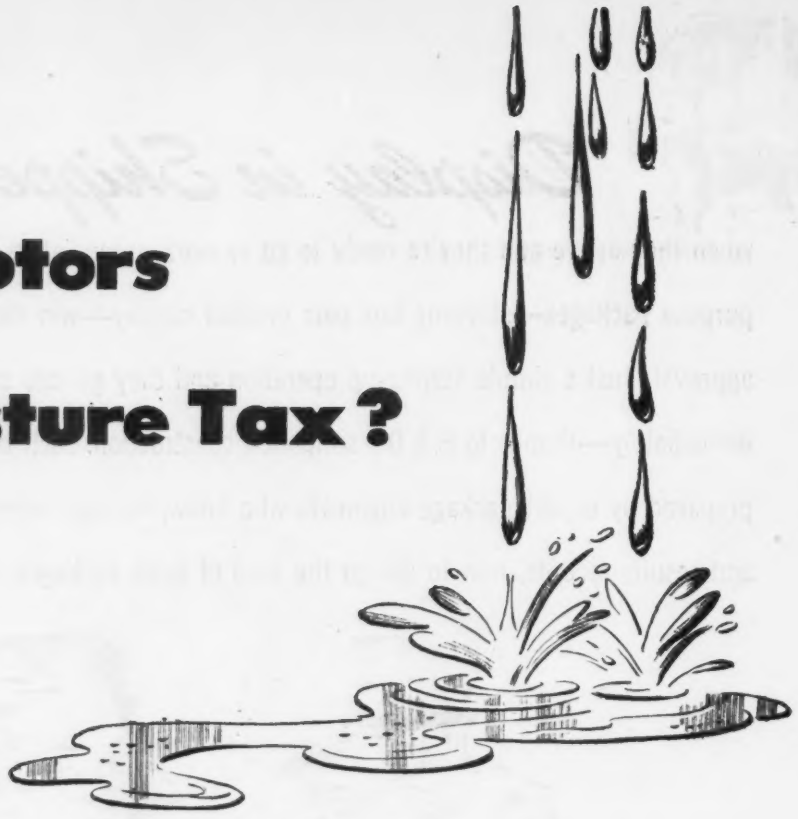
Hinde & Dauch

AUTHORITY ON PACKAGING

THE HINDE & DAUCH PAPER COMPANY, 4530 DECATUR STREET, SANDUSKY, OHIO

Factories in BALTIMORE • BOSTON • BUFFALO • CHICAGO • CLEVELAND • DETROIT • GLOUCESTER, N. J. HOBOKEN • KANSAS CITY • LENOIR, N. C. • MONTREAL • RICHMOND • ST. LOUIS • SANDUSKY, OHIO • TORONTO

Do your motors pay a Moisture Tax?



Moisture imposes heavy penalties on many motors. So do heat, dirt, overloads and the human element. Together, these operating conditions cause excessive time and dollar losses in nearly every industry.

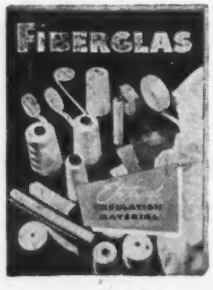
HIGH *Safety Factor* INSULATION

Fiberglas*Electrical Insulation Materials have proved their ability to provide "extra" protection against conditions which cause most motor burnouts and failures.

Take moisture resistance, for example. The individual Fiberglas fibers do not absorb moisture. They will not swell or disintegrate or become chemically affected by oils, most corrosive vapors or acids. Therefore, Fiberglas retains its strength, supports the varnish insulating element even under adverse conditions. It is a *safety factor* which eliminates many unnecessary losses. Moisture resistance is but one of the many characteristics which make Fiberglas Insulation "High Safety Factor" Insulation.

EMERGENCY MAKES CONVINCING DEMONSTRATION

A break in the main steam line, in the boiler room of a large public utility, filled the room with live steam. Six 700 hp. induction motors were located in the room to supply air to the main boilers. It was feared that the steam and heat would knock out all of the motors. Fortunately, however, the plant engineer had previously specified Fiberglas Insulation for two of the motors, as a trial.



Of the six motors in the room, the only two which did not fail were those with Fiberglas-base Insulation. These two motors kept the generating plant in operation, at reduced capacity, until the other four could be rewound with Fiberglas.

Fiberglas-base Insulation Materials, in plain and treated forms, are available *now*. For complete information consult your distributor or write for new catalog. *Owens-Corning Fiberglas Corporation, 1864 Nicholas Building, Toledo 1, O.*

In Canada, Fiberglas Canada Ltd., Oshawa, Ontario.

ASK FOR FIBERGLAS—IN YOUR NEXT NEW MOTOR—AND ON YOUR NEXT REWIND

FIBERGLAS

*T. M. Reg. U. S. Pat. Off.

ELECTRICAL INSULATION MATERIALS

ARMY E NAVY

THERE'S A COMPLETE LINE OF FIBERGLAS ELECTRICAL INSULATIONS

YARNS • TAPE • CORD • SLEEVING • CLOTH AND OTHER FORMS. Also available in: Magnet wire, Lead wire, Special wires, Varnished cloth and tape; Mica combinations: Laminates, Saturated sleeving, Varnished tubing, Pressure-sensitive tapes, Special products.

gear your drives to more efficient power transmission

8 Points of Balance

1. Wide margin of strength.
2. Minimum inelastic stretch.
3. Uniform flexibility.
4. Maximum resistance to structural breakdown.
5. Smooth running.
6. Maximum traction.
7. High resistance to side wear.
8. Correct lateral reinforcement.

These 8 Points are correctly embodied in every Condor V-Belt. Other factors being equal, the useful life of a V-Belt is limited by excessive stretch.

Every Condor V-Belt has these 8 Points of Balance engineered into it — every Condor V-Belt is designed to give you more efficient power transmission, greater production and added profit through longer service life. And every Condor V-Belt does just that.

Stout, tough pre-stretched Whipcords carry the load smoothly, and are the Strength Members that fortify the FLEXLASTICS in which they are embedded. The FLEXLASTICS dissipate the heat of internal friction and high-speed flexing while providing a cushioned, smooth-running V-Belt.

Condor V-Belts are only one of the many MANHATTAN Products in which FLEXLASTICS, with engineered and correctly placed Strength Members, deliver added service. There are Paranite-G.O.P. Oil-Proof V-Belts with the same scientific principle embodied in their construction, but with G.O.P. FLEXLASTICS throughout for service where oil or excessive temperatures exist. The Non-Spark Feature for guarding against danger of fire, explosion and hazards from static is restricted but will be ready for your post-war use.

Write now for Condor V-Belt Bulletin 6868 B.

Condor Belts are now made in the dark, war-time color. The term FLEXLASTICS is an exclusive MANHATTAN trade mark. Only MANHATTAN can make FLEXLASTICS.

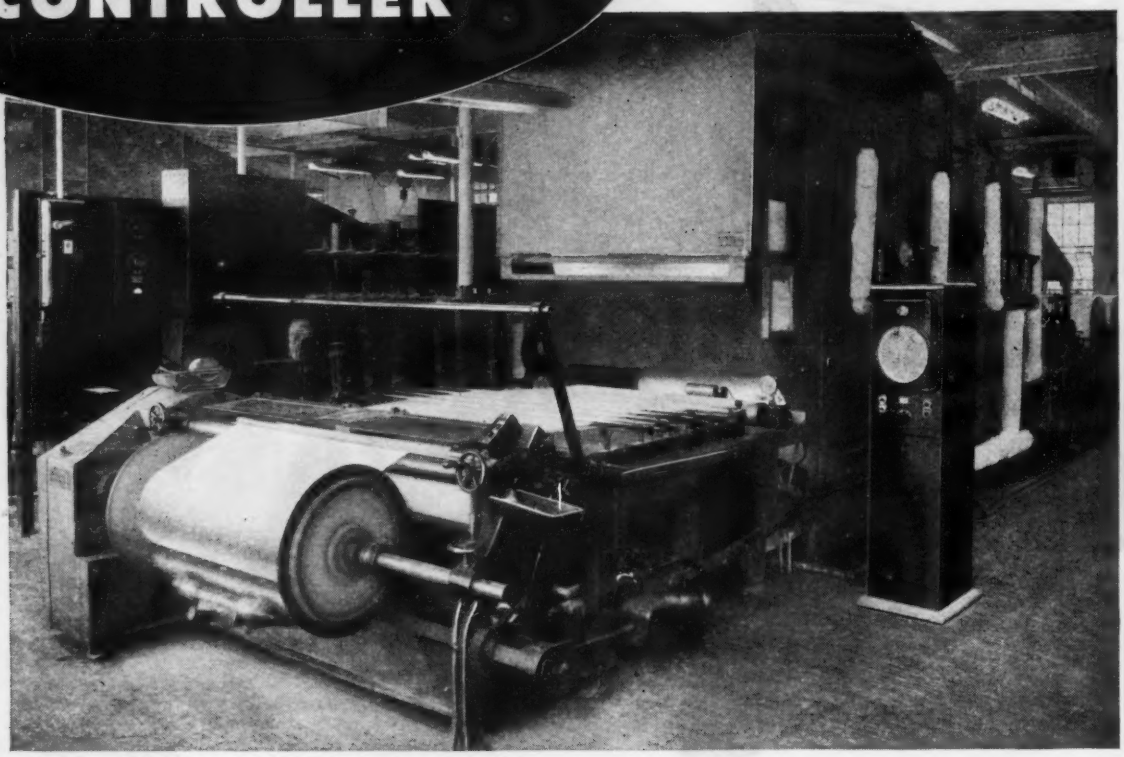
THE MANHATTAN RUBBER MFG. DIVISION

OF RAYBESTOS-MANHATTAN INC.

Executive Offices and Factories PASSAIC, NEW JERSEY

BARBER-COLMAN MOISTURE CONTENT CONTROLLER

AUTOMATIC ELECTRONIC CONTROL OF REGAIN AT THE SLASHER GIVES MORE UNIFORM QUALITY PRODUCT AND INCREASED PRODUCTION



EASILY ADAPTABLE

TO ANY ELECTRICAL OR MECHANICAL SPEED-CHANGING UNIT ON EXISTING SLASHERS

The Barber-Colman Moisture Content Control system includes speed control units which are adaptable to whatever type of speed-changing equipment is now incorporated in your slashers. These may include the conventional cone pulley drives or one of the many types of electrical or mechanical variable speed drives now available. No major changes are necessary on your present slasher equipment when you add the Barber-Colman moisture Content Control system. Barber-Colman equipment is outstanding in that it provides true *proportioning* control. When a small correction is needed, only a small change of speed will be made; when a large correction is called for, a large change of speed will be made — but always in a single complete move *without overcorrection or "hunting"*. Production for a given slasher and slasher room investment is always maintained at peak levels.

For details on the principles, features, advantages, and the benefits to be gained from Barber-Colman Moisture Content Control equipment, send for this brochure. Ask for Bulletin F-1705-1.

Barber-Colman Company

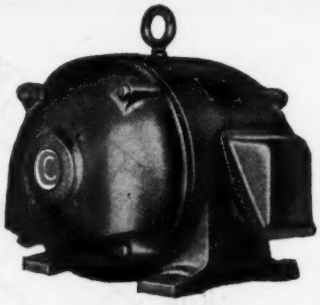
45 YEARS EXPERIENCE SERVING TEXTILE MILLS

ROCKFORD ILLINOIS | BOSTON MASSACHUSETTS | GREENVILLE SOUTH CAROLINA | GREENSBORO NORTH CAROLINA | ATLANTA GEORGIA

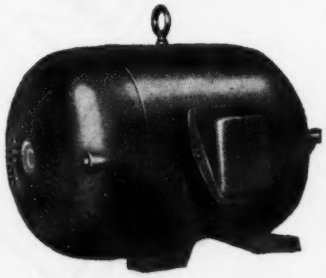
Century
Explosion Proof
Motor

3 OTHER TYPES OF PROTECTION

Form J — General Purpose Application



Splash Proof Protection



TEFC — Protects Against Destructive Dust, Grit, Powdered Materials

PROTECT LIFE • PROPERTY • PRODUCTION *with Century Explosion Proof Motors*

Century Explosion Proof motors protect you, your employees, and your plant against explosions and fire when they are located in atmospheres charged with explosive mixtures of alcohols, acetone, lacquer solvent vapors, natural gas, petroleum products, gasoline, naphtha, grain dusts, and other explosive dusts. These explosive hazards come under classifications Class I Group D and Class II Group G of the Underwriters' Laboratories.

Century Explosion Proof motors are made with many variations in operating characteristics, such as high torque, normal torque, low torque, multiple speed.

Forced air cooling fans carry off the heat produced by the motor operation. This keeps the vital parts of the motor cool and, in addition, blows dust out of the air passages and keeps the motor frame clean.

The contour of the motor frame is smooth and streamlined, making it easier to keep the outside of the motor clean and neat in appearance.

If hazardous atmospheric conditions are a problem in your plant, ask a Century engineer to give you complete information on Century's Explosion Proof motors.

CENTURY ELECTRIC COMPANY
1806 Pine Street St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

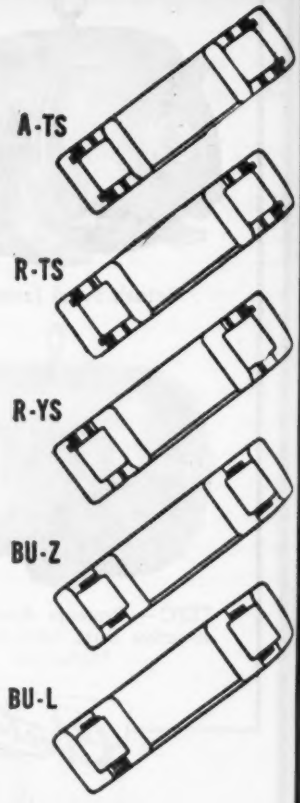
Century C MOTORS

385

Hyatt Hy-Load Bearings are made in separable types as well as in self-contained units. In the separable bearings the inner races are the separable units in one instance and the outer races in the other. Thus, the component parts of every separable Hyatt Hy-Load type bearing of a given size are fully interchangeable. Every race fits every roller assembly.

Separable races may be assembled in one part of the shop and the rest of the bearing in another. When the sub-assemblies are brought together on the final assembly line the component bearing parts will fit correctly. No selection or matching required.

Every Hyatt A-TS, R-TS, R-YS, BU-Z and BU-L type bearing has this feature—and many others. Write for data.



HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION

Harrison, New Jersey • Chicago • Detroit • Pittsburgh • Oakland, California

BLEACHING BETTER WITH BECCO

Professional "Know How" can now be yours

Yes, Becco engineers are now prepared to make a survey of your plant and advise how your bleaching operations can be placed on a most efficient and economical basis. These engineers are well qualified to render such a service as the result of many years of specialized bleaching experience. They will advise what system is most suitable for your operations, whether it be cotton, wool, knit goods, rayon and other natural and synthetic fibres. They will advise a chemical and physical layout that will result in a minimum of "seconds" at the lowest cost. They will advise as to the best process, equipment, method and chemicals for your particular size plant. And, remember, that they will tell you how to best bleach any textile materials. They will further advise at what stage of production the bleaching should be done or is most suitable.

Here's bleaching "know how" that can now be yours, *free*. Make arrangements through:

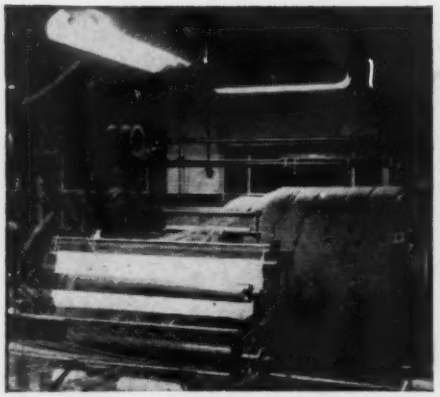
BECCO SALES CORPORATION

AGENTS FOR BUFFALO ELECTRO-CHEMICAL CO., INC., BUFFALO 7, N. Y.

New York Boston Philadelphia Chicago Charlotte

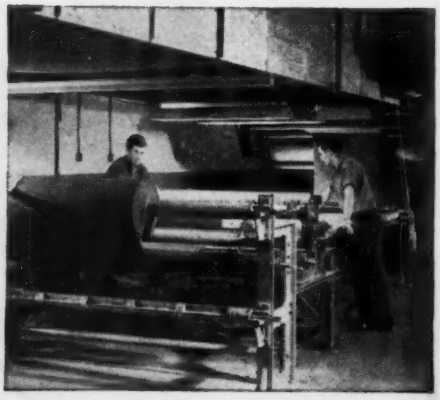
HOW TO REDUCE THE HIGH COST OF PLANT ACCIDENTS

Correct lighting—with properly applied G-E Lamps—offers important new savings in manpower and materials. Here are specific results:



1 **Machine operations** move faster and safer in this mill using high-level, eye-easy illumination provided by G-E Mazda Fluorescent Lamps. Good machine lighting promotes safety, reduces accidents.

2 **Overcome visual strain**—and fatigue goes down, safety up. G-E Lamps (above) furnish high intensity illumination at low brightness . . . enable new workers to learn faster and make fewer errors.



3 **Handling materials** around machinery calls for caution—*plus* adequate glare-free lighting for safety. G-E Mazda Lamps help provide it in this carpet mill.

4 **Production** hits top speed here—thanks to an even spread of diffused G-E Fluorescent lighting that reaches into those dark corners where the accident potential is highest.

TURN TO G-E: Whether it's lighting for safety . . . or more production at lower cost . . . or for lighting that can make postwar products sell quicker and easier . . . General Electric makes the lamps for every lighting need. Call on your G-E lamp supplier.

REMEMBER: Safer production starts with good lighting—and good lamps are the heart of good lighting. Be sure the lamps you buy are marked G-E.

G-E MAZDA LAMPS

GENERAL ELECTRIC

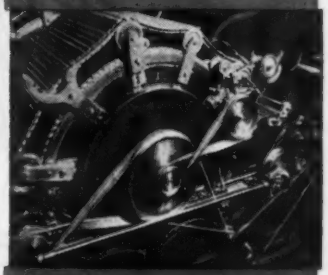
BUY MORE WAR BONDS

Hear the G-E radio programs: "The G-E All-Girl Orchestra," Sunday 10:00 p. m. EWT, NBC; "The World Today" news, Monday through Friday 6:45 p. m. EWT, CBS; "The G-E Houseparty," Monday through Friday 4:00 p. m. EWT, CBS.

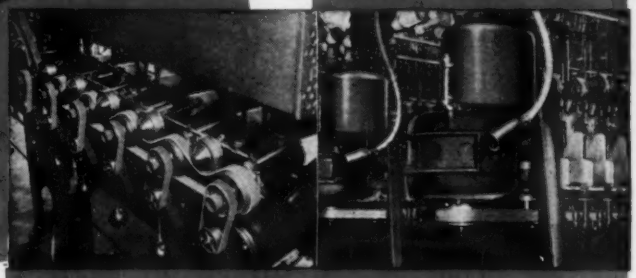
Gilmer BELTS

Dependably serving the textile industry's belting needs

GILMER V-BELTS—FHP and Multiple. Space saving, silent, shock absorbing. Built to lock in the grooves with a non-slip grip. In standard and special sizes.



GILMER KABLE KORD LICKERIN BELTS. A conductor and power belt in one. Noted for exceptional grip, low stretch, small slippage and high tensile strength. Stand up long in service.



GILMER HEVALOID GAINER BELTS. Made under Hevaloid patent with Neoprene compound, which provides a high coefficient of friction. For precision work at 9000 f.p.m. Resist oil, heat, stretch and slippage.

GILMER ENDLESS CORD SPINNER BELTS. Built with continuous cord construction to assure smooth and uniform spindle speed. A belt of high tensile strength, low stretch and long life.

GILMER KABLE KORD BELTS AND BELTING. Meet practically every flat, power belt need. Endless and non-endless, "two-belts-in-one"—conductor and power. Tight gripping, hard pulling, long wearing.

GILMER CONE DRIVE BELTS. Reinforced multiple jacket edges and rubber-locked internal structure check wear and unraveling from the action of shifter forks. Assure longer life in the toughest service.

In the Gilmer line of textile machinery belts, there are types and sizes to meet the power transmission needs of every division of the industry—cotton, woolen, synthetics, jute, hemp, flax, etc. And for each of them there are Gilmer Belts to fit every drive from power plant to looms.

These Gilmer Belts are highly specialized. Each is designed for definite types of work by engineers whose close association with the textile industry covers many years. The long experience of these belting specialists is at your service. You may feel free to consult them at any time.

L. H. GILMER COMPANY
Tacony, Philadelphia 35, Pa.
Division of United States Rubber Company

OTHER GILMER BELTS include Endless Round Belts for carding machines, Endless Cord Spinner Belts for silk throwing, etc. All are completely described in the handbook, "Gilmer Belts for the Textile Industry"—a book that simplifies the specifying of belts for a large majority of drives. Write for your FREE copy today.

QUICK QUIZ:

Are you looking your future in the eye?

Do you see the advantages of:

Holding the correct temperature for each process in manufacturing synthetic yarns?

Preventing health hazards in spinning of synthetics?

Cooling your plant for maximum efficiency of workers?

Minimizing "salting" on machine or thread?

Reaching and holding uniform and full marketable regain?

Controlling physical properties of yarn for smoother running?

EASY ANSWER:

CARRIER AIR CONDITIONING has been playing a successful part in the progress of the textile industry for more than 39 years. Let this vast fund of special experience help solve your problems. Call on Carrier engineers for the most advanced scientific information on modern air conditioning, refrigeration and unit heating. This expert counsel and cooperation on present or post-war needs is yours for the asking. Write fully today. Carrier Corporation, Syracuse, N.Y.

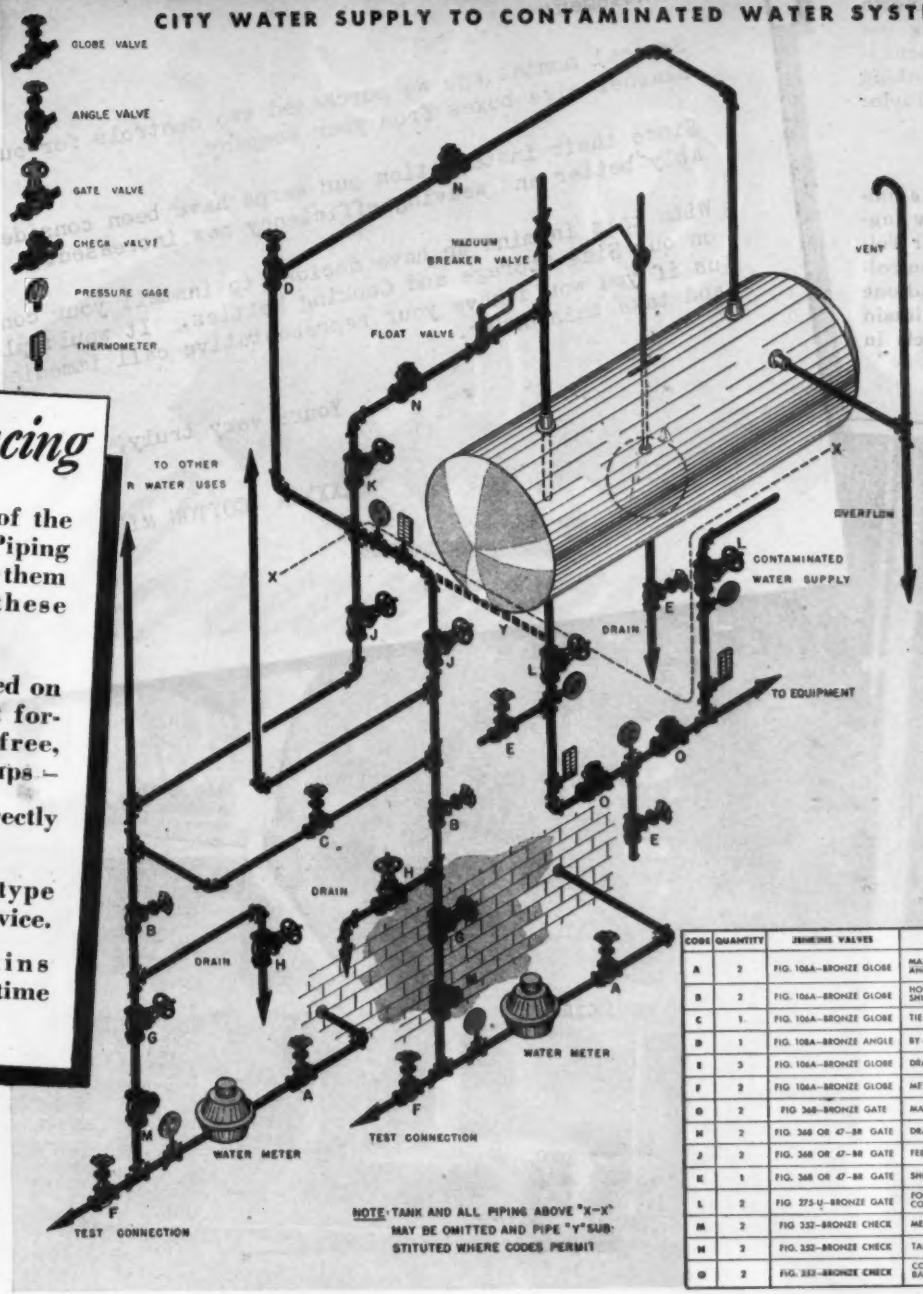
Carrier

AIR CONDITIONING • REFRIGERATION

INDUSTRIAL HEATING

Jenkins PRACTICAL PIPING LAYOUTS 1

CITY WATER SUPPLY TO CONTAMINATED WATER SYSTEM



CODE	QUANTITY	JENKINS VALVES	SERVICE
A	2	FIG. 106A—BRONZE GLOBE	MAIN SERVICE SHUT-OFF AND CONTROL
B	2	FIG. 106A—BRONZE GLOBE	HOUSE HEADERS—SHUT OFF AND CONTROL
C	1	FIG. 106A—BRONZE GLOBE	TIE BETWEEN HEADERS
D	1	FIG. 108A—BRONZE ANGLE	BY-PASS AROUND FLOAT VALVE
E	3	FIG. 106A—BRONZE GLOBE	DRAINS
F	2	FIG. 106A—BRONZE GLOBE	METER TEST
G	2	FIG. 368—BRONZE GATE	MAIN SERVICE SHUT OFF
H	2	FIG. 368 OR 47–BR GATE	DRAINS FOR HEADERS
J	2	FIG. 368 OR 47–BR GATE	FEEDS TO TANK FILL LINE
K	1	FIG. 368 OR 47–BR GATE	SHUT-OFF FOR FLOAT VALVE
L	2	FIG. 275-U–BRONZE GATE	FOR CONNECTION FEEDING CONTAMINATED WATER SUPPLY
M	2	FIG. 352–BRONZE CHECK	METER BACK FLOW PREVENTION
N	2	FIG. 352–BRONZE CHECK	TANK BACK FLOW PREVENTION
O	2	FIG. 352–BRONZE CHECK	CONTAMINATED WATER SUPPLY BACKFLOW PREVENTION

Introducing

A NEW SERIES of the popular Jenkins Piping Layouts. Watch for them each month in these pages.

Each layout is based on the proved 3-point formula for trouble-free, time-defying hookups –

1. **Place valves correctly in the lines.**
2. **Use the right type valve for the service.**
3. **Choose Jenkins Valves for lifetime economy.**

City and State Laws require that contamination of city water be made impossible when a secondary, impure source of water is used for cooling, boiler feed, etc. This layout presents an economical hookup to meet all requirements. Local codes vary, and obviously could not all be allowed for. Jenkins recommends consultation with accredited engineers and contractors when adapting these suggestions to your specific requirements. Copies of **This Layout No. 1,** enlarged, with complete details of all valve specifications, will be furnished on request by Jenkins Engineers.

OVER 600 JENKINS VALVES TO FIT YOUR PLANS

When you plan your piping layouts, you will rarely need a valve you can't find in the JENKINS CATALOG. Over 600 patterns are listed, for every type of service.

That means you save time – by selecting all the valves you need from one source. It also means you get the advantages of Jenkins *better* design, *better* materials, and *better* workmanship for every control point on your lines . . . at no higher cost than for other good valves.

Jenkins Bros., 80 White Street, New York 13; Bridgeport; Atlanta; Boston; Philadelphia; Chicago; San Francisco. Jenkins Bros., Ltd., Montreal; London, England.

LOOK FOR THIS TRADE JENKINS MARK DIAMOND MARK SINCE 1864

Jenkins Bros.

JENKINS VALVES

BRONZE • IRON • STEEL AND CORROSION-RESISTING ALLOYS

For every industrial, engineering, marine, plumbing-heating service . . . 125 to 600 lbs. pressure.

Sold Through Reliable Distributors Everywhere

THIS LETTER from a North Carolina mill turning out colored fabrics and yarns is more eloquent than anything we could say about Taylor Automatic Control.

PHOTO BELOW shows a similar installation in New England. Note the Taylor Fulscope Temperature Controllers, one recording and one indicating, which maintain temperatures and levels in the size boxes.

Taylor Instrument Companies
Rochester, New York

Gentlemen:

Several months ago we purchased two controls for our slasher size boxes from your company.

Since their installation our warps have been considerably better and weaving efficiency has increased.

With this in mind we have decided to install your control on our Size Storage and Cooking Kettles. It would please us if you would have your representative call immediately and take this order.

Yours very truly,

XXXXXX COTTON MILLS

WE'RE especially proud of letters and pictures like these. We know the textile industry has done an outstanding war job. True, there have been many temporary shortages, and some not so temporary. But rationing, so often predicted, never quite came to pass and quality has been far ahead of World War I. And if Taylor Engineers and Taylor Automatic Control Systems have helped what better reason could there be for letting us help you plan now for a head start against postwar competition? Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

BUY ANOTHER WAR BOND TODAY!

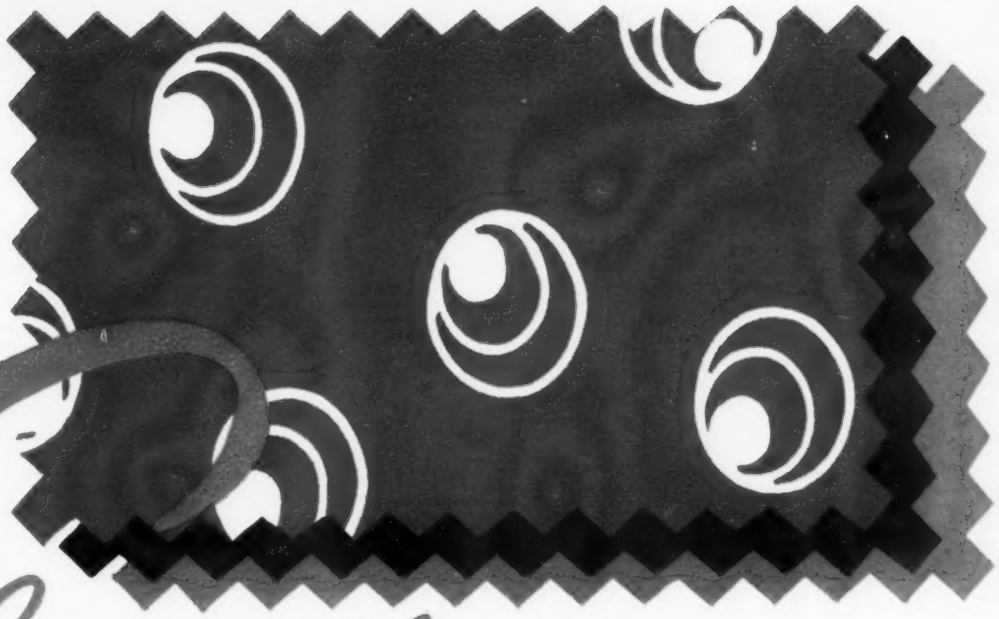
ARMY NAVY

Taylor Instruments

MEAN

ACCURACY FIRST

IN HOME AND INDUSTRY



Chlorantine FAST RED 6BLL

a leader of direct reds

with these five star features

★ DISCHARGE ★ WASHING ★ LIGHT ★ ACETATE RESERVE ★ PROTEIN FIBRE RESERVE

many direct reds can claim two, three, or even four stars: few can claim five

For instance, in CHLORANTINE FAST RED 6BLL there is a rare combination — outstanding light fastness and perfect dischargeability. This, along with its other properties makes it one of the most useful and versatile colors for the quality dyeing of cottons, rayons and mixed fabrics.

DYESTUFFS • CHEMICALS • INTERMEDIATES

CIBA COMPANY INC.

Greenwich & Morton Sts. NEW YORK

BOSTON · CHICAGO · MONTREAL · CHARLOTTE
PROVIDENCE · SAN FRANCISCO · PHILADELPHIA

VAT DYES OF THE DOW CHEMICAL COMPANY

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK, N. Y.

Telephone: AShland 4-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

•

ESTABLISHED 1840

MOVE THE LIQUOR INSTEAD OF THE YARN

...and here are the results of this new SMITH-DRUM skein dyeing principle

Production Up 25% to 50%

No other skein dyeing machine can come even close to the high rate of production of this famous Smith-Drum machine. It can handle larger batches than any other machine occupying the same floor space. Faster dyeing permits more batches per day.

Dyeing Costs Down 25% to 30%

Low liquor ratio saves dyestuffs, steam and water. Simplified operation reduces labor costs. Faster dyeing time greatly reduces operating costs per batch.

Quality Up 20% to 100%

Because the yarn is delivered free of snarls, there is less breakage in winding and, consequently, fewer knots. This insures finer quality of the finished fabric. Uniformity of dyeing results cannot be equaled by any other machine.

Winding Costs Down 25% to 50%

Because of the new basic principle employed by this Smith-Drum machine . . . "move the liquor instead of the yarn" . . . there is no snarling or breaking of the yarn. This saves both time and trouble in winding . . . effecting a real saving in winding costs.

Write for copy of this booklet

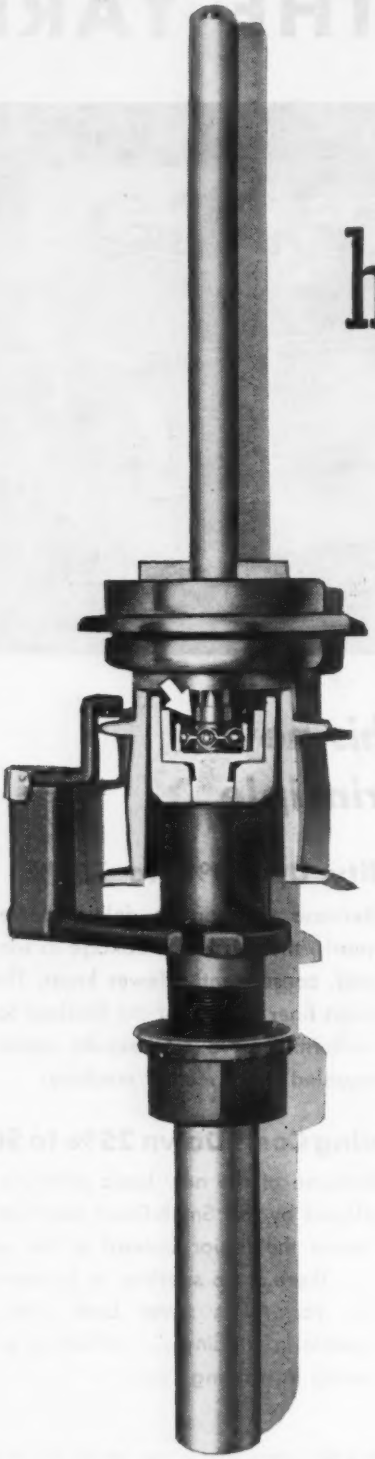
This Smith-Drum machine completely revolutionized skein dyeing within a few years after it was introduced. New improvements in our post-war models will put it still further out ahead in both performance and sales. We are already booking orders for delivery as soon as war restrictions are lifted. By ordering now, you will shorten your wait for delivery. Write promptly for complete information.

SMITH, DRUM & COMPANY, Allegheny Ave. at 5th Street, Philadelphia 33, Pa.

SMITH-DRUM Textile Machines

for hosiery dyeing, skein dyeing, package dyeing, beam dyeing, piece goods dyeing, package drying, skein mercerizing, warp mercerizing, hosiery inspection.

2-Directional Support for high speed heavy twister spindles

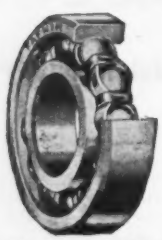


The spindles the Whitin Machine Works make for extra heavy twisters require a bearing that will carry a heavy load vertically and horizontally . . the *thrust* load of a large yarn package and the *radial* load of the tape pull.

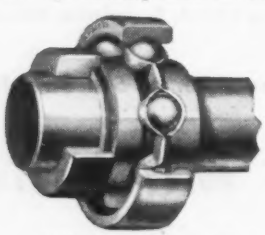
Past experience prompted Whitin to turn to Fafnir for bearing recommendations. The answer was simple. Fafnir's Balanced Design – larger balls and deeper races – made it possible to use a standard single row radial bearing to handle both the *thrust* and *radial* loads.

Fafnirs are stepping up production and holding down costs on a variety of textile jobs . . . for example, in high-speed twisters, looms, winders and slashers. They are putting extra smoothness and efficiency into many critical turning points where ball bearing speed is vital to quantity with quality. Fafnir service engineers will gladly tell you more about this performance. The Fafnir Bearing Company, New Britain, Connecticut.

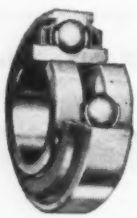
Types of Fafnir Ball Bearings Widely used on Textile Machinery



Single Row Radial



Wide-Inner Ring with Self-Locking Collar



Mechani-Seal

★ 2182

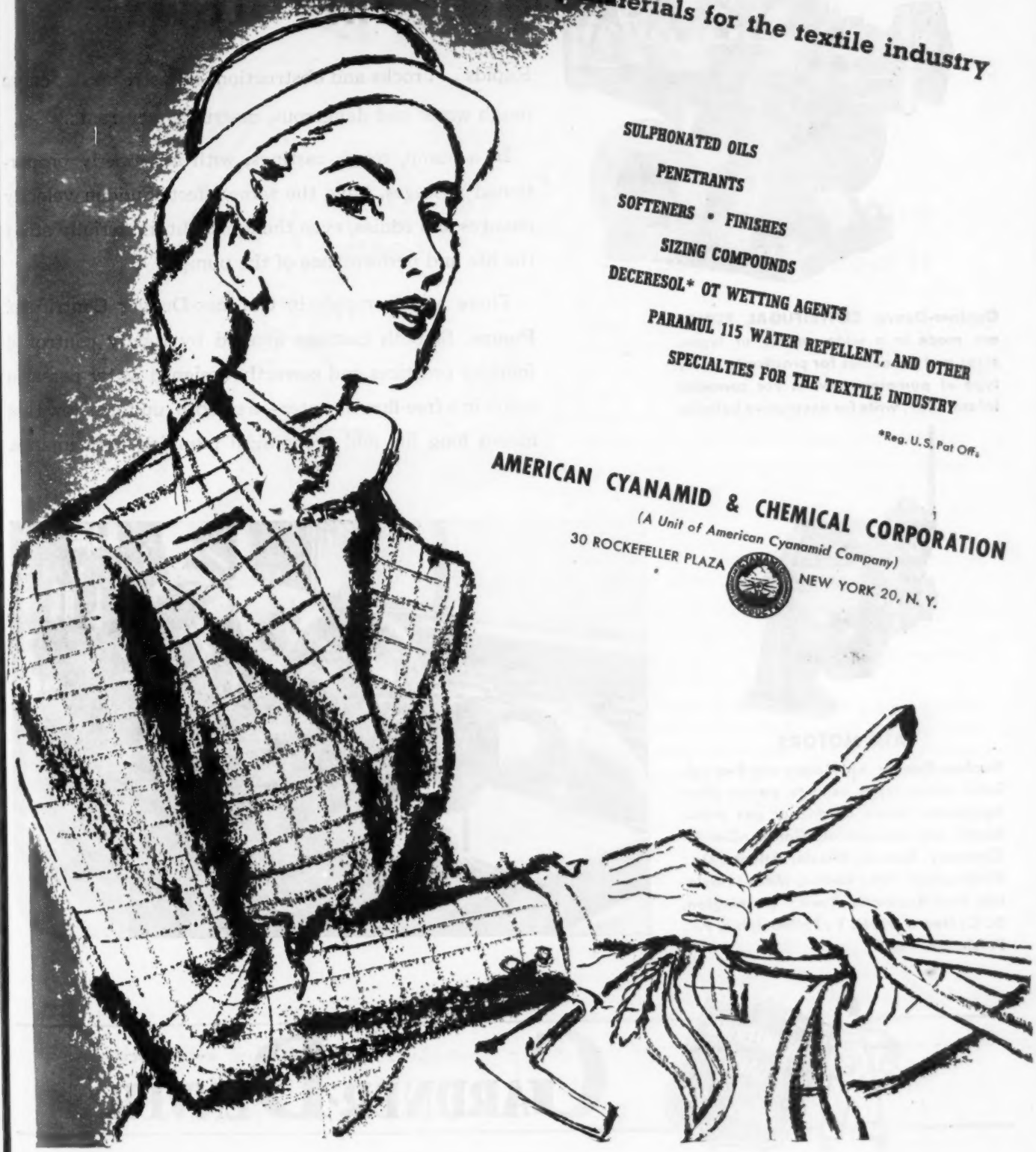
FAFNIR

BALL BARINGS

Most Complete Line in America

Unsurpassed Distinction

...Cyanamid's controlled quality materials for the textile industry



SULPHONATED OILS

PENETRANTS

SOFTENERS • FINISHES

SIZING COMPOUNDS

DECERESOL* OT WETTING AGENTS

PARAMUL 115 WATER REPELLENT, AND OTHER SPECIALTIES FOR THE TEXTILE INDUSTRY

*Reg. U. S. Pat Off.

AMERICAN CYANAMID & CHEMICAL CORPORATION

(A Unit of American Cyanamid Company)

30 ROCKEFELLER PLAZA NEW YORK 20, N. Y.

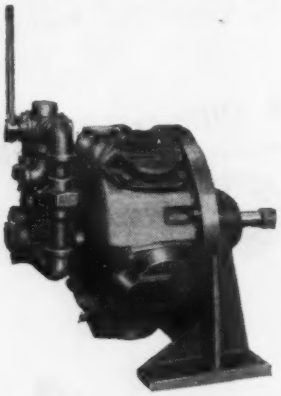
NO "RAPIDS" TO HINDER THIS FLOW!

Rapids . . . rocks and obstructions in a stream . . . cause rough water and dangerous, destructive currents.

In a pump, rough castings, with improperly proportioned passages, have the same effect. Sudden velocity changes and eddies, even though slight, materially affect the life and performance of the pump.

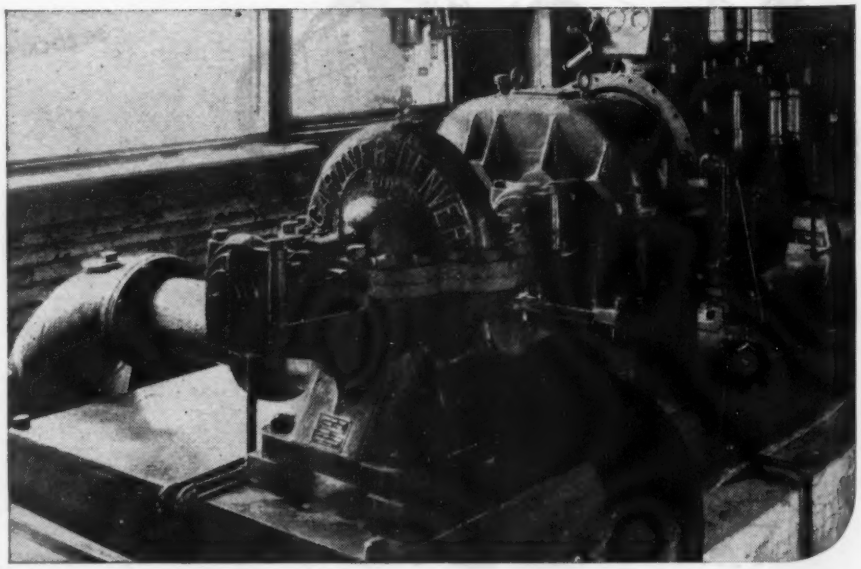
There are no rapids in Gardner-Denver Centrifugal Pumps. Smooth castings assured by rigidly controlled foundry practices and correctly designed water passages result in a free-flow of water—a smooth, uniform flow that means long life and economical pumping performance.

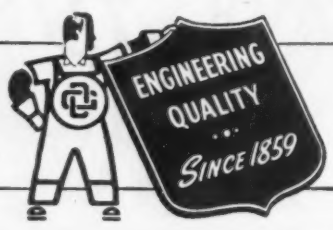
Gardner-Denver CENTRIFUGAL PUMPS are made in a wide variety of types, sizes and capacities for practically every type of pumping service. For complete information, write for descriptive bulletin.



AIR MOTORS

Gardner-Denver Air Motors are five cylinder radial types used to power other equipment where electric or gas motor drives are impractical. Gardner-Denver Company, Quincy, Illinois; Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Hazleton, Pa.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.





GARDNER-DENVER

This DRAX tag will be a recognized symbol of plus value

The big new name in fabric finishes

It's JOHNSON'S DRAX

Trademark Reg. U. S. Pat. Off.

and Millions Are Learning About It

Here's exciting news in fabric finishes. Now the story of DRAX, the new water-repellent made by the makers of Johnson's Wax, is being told to every group in the textile field — the buyers, manufacturers, converters and mills. Millions of store customers are learning about DRAX through announcements in Johnson's national advertising.

As a result you may expect your customers will soon be specifying DRAX if they haven't already done so. For DRAX is not only a highly efficient product — but the forces of advertising and promotion behind DRAX spring from the great consumer market where the phrase "by the makers of Johnson's Wax" is a byword.

Sportswear will be DRAXed for water repellency, to make it resist dirt and soil, to keep it fresh, new-looking longer. The DRAX field will include clothes and household fabrics of almost every kind.

Powerful additional reason for a great demand for DRAX is the fact that DRAX service is rapidly becoming available from laundries and dry cleaners everywhere and later DRAX will be used right in people's homes.

You need no special equipment for DRAX. It is non-flammable, stays stable in solution. Send for a sample of DRAX today!

S. C. Johnson & Son, Inc., Fabric Finishes Division, Racine, Wis. Starrett Lehigh Building, 601 West 26th St., New York 1. Or any of our other 18 district offices.

***DRAX** is made by the makers of*

JOHNSON'S WAX (A name everyone knows)

Guaranteed by Good Housekeeping

★ *Buy more War Bonds — to KEEP!* ★

S. C. JOHNSON & SON, Inc., Dept. TW-65, Racine, Wis.

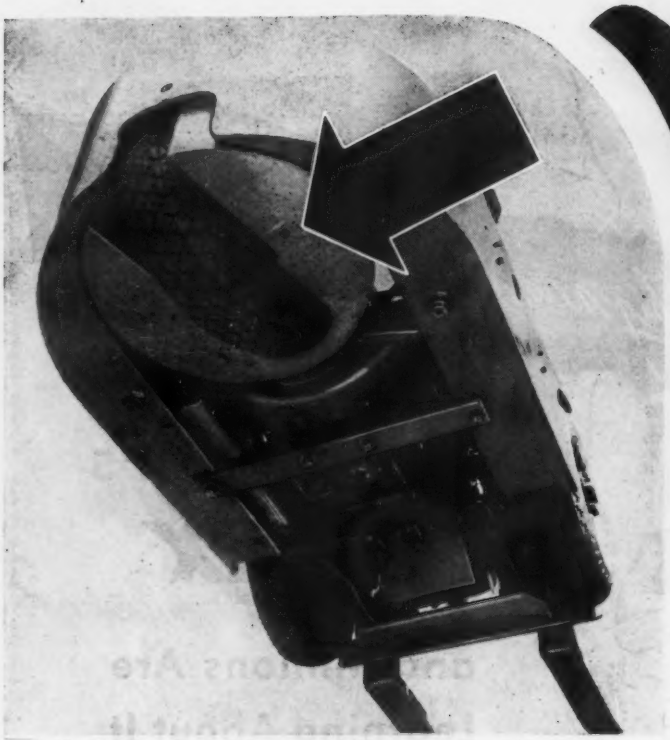
Yes, I'd like to try DRAX. Please send my FREE sample, plus instructions and complete information.

*Name*_____

*Firm Name*_____

*Address*_____

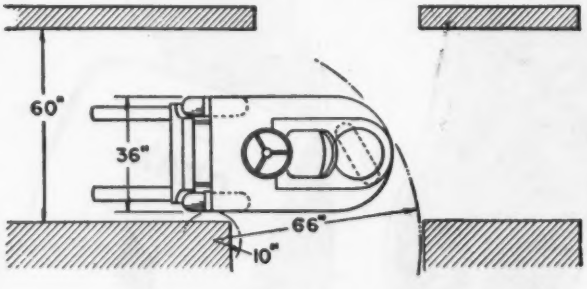
*City*_____ *State*_____



Why Trunnion Steering on the HYSTER 20?

TRUNNION STEERING serves TWO valuable purposes with this modern Fork Lift Truck. With it, the HYSTER 20 can "turn in its own length." It allows for compact, streamlined, tapered end design—an invaluable feature for clearing piled merchandise and building structure, and operating in crowded quarters and narrow aisles.

It incorporates HYSTER'S exclusive, patented counterweight—mounted around and swinging with the rear trunnion steer wheel to conserve space. Dual, spark-arresting, water mufflers are built as an integral part of the frame.



Compact design PLUS trunnion steering gives the HYSTER 20 a turning radius of only 66 inches. Lift height is 108 inches to underside of load. Capacity is one ton. Easy-riding, traction-geared, pneumatic tires "take" rough ground or smooth pavement. Catalog 692 gives all details about the "20". Write for it.

645-62

HYSTER Company

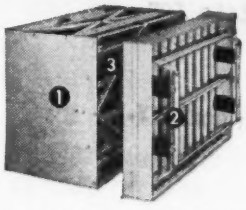
2922 N. E. Clackamas - Portland 8, Oregon
1822 North Adams - Peoria 1, Illinois

LARGEST MANUFACTURER OF TRACTOR HOISTS AND WINCHES

Pioneer manufacturers of mobile materials handling machines: fork lift trucks, crane trucks and straddle trucks. All gasoline powered; all pneumatic tire mounted.

BRANCH OFFICES: 221 N. LaSalle St., Chicago 1, Ill.; 90 West St., New York 6, N. Y.; 1022 Denrike Bldg., Washington 5, D. C.; 233 Ninth St., San Francisco 3, Calif.; Masonic Bldg., New Orleans 12, La.; 2219 Fourth Avenue, Seattle 1, Wash.; 2700 Santa Fe Ave., Los Angeles 11, Calif.; 215 Euclid Ave., Cleveland 14, Ohio; 211 Farnsworth Building, Memphis 3, Tenn.

HOW PRECIPITRON WORKS

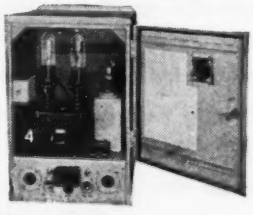


1. A Precipitron cell with ionizer (2) detached to permit a view of the vertical collector plates inside the cell.

2. High-voltage wire creates an electrostatic field at the front of the Precipitron cell, charging all dust and dirt particles as they enter.

3. The charged particles are drawn to and precipitated on the vertical collector plates which are easily cleaned by flushing.

4. The Precipitron power pack charges ionizer (2) and collector plates (3) . . . provides 13,000 volts d-c to set up the electrostatic field and 6,000 volts d-c to the collector plates.



No Moving Parts

LOW POWER COST

*Trademark registered in U. S. A.

Any mill where cleanliness of product is an important factor needs Precipitron,* the electronic air cleaner that pays for itself.

Oily dirt deposited on guides, guide wires, flyer wires and rollers means blackened kerots and streaky packages . . . and inevitably . . . a high percentage of off-quality, dark shades in finished production. And in the weave room this same oily deposit on reeds has the same costly result.

Precipitron provides an effective solution to these profit-robbing problems. It eliminates smoke, soot, and dust from outside air and (by recirculation of air) removes the oil mist generated inside the room. Precipitron intercepts air-borne particles as small as 1/250,000 of an inch . . . delivers air 90% cleaner.

Place your mill in a favorable post-war competitive position. Investigate what Precipitron can do for you.

For the complete story on this fascinating Westinghouse development, call our nearest office, or write Westinghouse, P. O. Box 868, Pittsburgh 30, Pa.

J-04506

Westinghouse PRECIPITRON

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Pleased with results in one plant, trouser firm paints 3 others with . . .

THE HERCULES TROUSER COMPANY
EXCLUSIVELY TROUSERS
P. O. BOX 568 • COLUMBUS 16, OHIO

April 19th, 1945.

Glidden Co.
131 E. Long St.,
Columbus 15, Ohio.

Attention: John L. Watt

Gentlemen:

In March 1944 we painted the sewing room at our Columbus plant with Spray-Day-Lite. This was our first application of this type of painting used in any of our plants.

We were so well pleased with the results that since that time we have used Spray-Day-Lite in other departments of our Columbus plant and for all departments in our plants at three other Ohio cities.

We do not hesitate to recommend Spray-Day-Lite for use in factories of our type.

Yours very truly,

THE HERCULES TROUSER COMPANY.

FJV:rap

GLIDDEN

SPRAY-DAY-LITE

Again...superb Glidden maintenance paint sells itself through outstanding performance

The story of its first use—and continued use—of Glidden SPRAY-DAY-LITE told by The Hercules Trouser Company is not at all unusual. For throughout the textile world, this leading oil enamel maintenance paint is making *permanent* friends by living up to such performance standards as these . . .

1. **SPRAY-DAY-LITE increases lighting efficiency by giving *maximum* light reflection and diffusion.**
2. **One coat equals conventional two-coat results.**
3. **Provides smooth, solid covering over grimy, dirty and badly discolored surfaces of almost any type.**
4. **Its intense white does not yellow with age—also available in 10 beautiful colors.**
5. **Durable, egg-shell finish eliminates eye-straining glare—washes like tile.**
6. **Sprayed or brushed, it does not sag or run; produces little fog or mist when sprayed.**

Write today for SPRAY-DAY-LITE Color Chart visualizing wide range of attractive color combinations. Or, we will send a Glidden engineer to give you an actual demonstration of SPRAY-DAY-LITE in your own plant. No obligation!

THE GLIDDEN COMPANY • Cleveland 2, Ohio

TIME-TESTED

Pacemaker in Paints

E-Z-C COLOR ENGINEERING PUTS COLOR TO WORK

The scientific selection of color for machines, equipment, work-rooms and offices can help ease eyestrain, lessen fatigue, reduce accidents and boost production. E-Z-C Color-Planned Interiors are the result of many years of intensive research in the science of color. Send for free booklet, "Sight Perfection," that shows how to use color strategically in industry.

All that "fritters" isn't gold bricking

• You can see your employees aren't idle—yet their productive record shows hours of unaccountable work . . . time frittered away. Gold bricking? It's doubtful because, too often, an outside agent controls their ability . . . for the worst.

Forms—obsolete forms—may well be the culprit here. Forms that don't do the job they should . . . don't properly furnish departmental co-ordination, don't give the hows and whens of business transactions—cause needless and unnecessary work—hold up and slow down essential operations throughout the entire organization.

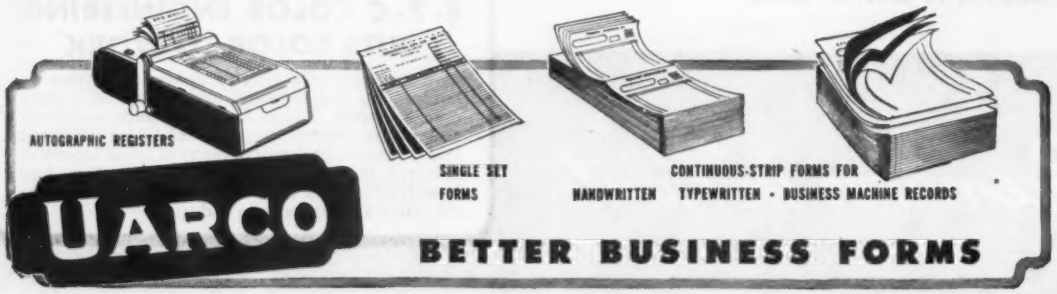
If you—like many busy executives—have always regarded forms as mere adjuncts to routine, Uarco may have something new to show you. For Uarco has made a science of creating better forms . . . prefabricating papers and carbons into forms that keep the flow of work moving smoothly, efficiently from purchasing to production.

Half an hour spent with the Uarco representative in examining your present forms may result in a substantial saving of time and money for you. Call him—soon.

for instance . . .

Here's one of Uarco's many time-saving forms . . . the Multi-Linkt. It's especially useful when forms must be typed continuously. Carbons are inter-leaved—papers aligned—no special equipment needed. Forms neatly stacked behind the typewriter feed the machine as the typist types. For added information, write today.

UNITED AUTOGRAPHIC REGISTER COMPANY
Chicago, Cleveland, Oakland • *Offices in All Principal Cities*



You'll be seeing much of the new Eastern Stainless blue and black trade mark — ES — reproduced above. Identifying the product of skilled craftsmen — all of whom are specialists in Stainless — it stands for Stainless Steels of superior quality.

Let this striking new emblem be a constant reminder that "Eastern has the answer when Stainless is the question." Eastern Stainless furnishes twelve standard and several special grades, all of highest quality, in an extensive range of sizes and finishes. And remember... the Eastern Stainless Technical Staff is ready always — to give you prompt, helpful service.

WRITE TODAY . . . FOR NEW 96 PAGE CATALOG!

It's hot off the presses... an office-handy encyclopedia giving authentic information on modern applications of Stainless Steels in many great industries including your own. Contains much technical data compiled by Eastern Stainless specialists. Be sure to get your free copy.

JMLCo B-F1

EASTERN STAINLESS STEEL CORPORATION
Baltimore 3, Maryland Dept. F-52

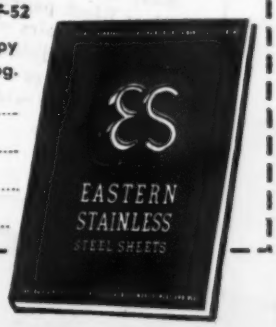
Gentlemen: Please send me a free copy of your valuable new 96 page catalog.

Firm Name.....

Address .....

City..... State.....

Your Name and Title .....



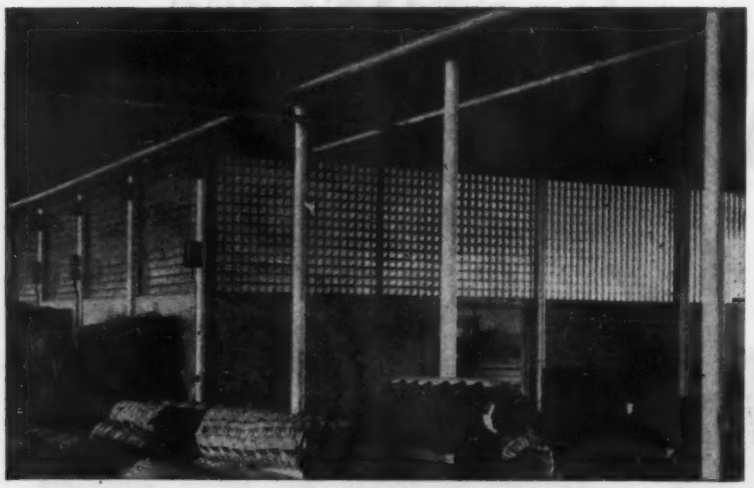
EASTERN STAINLESS STEEL CORPORATION

BALTIMORE 3, MARYLAND

Stainless Sheets Exclusively • Distributors' stock available in most areas

CHICAGO • CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • PHILADELPHIA

Only Glass Blocks serve *and Save-* all these ways

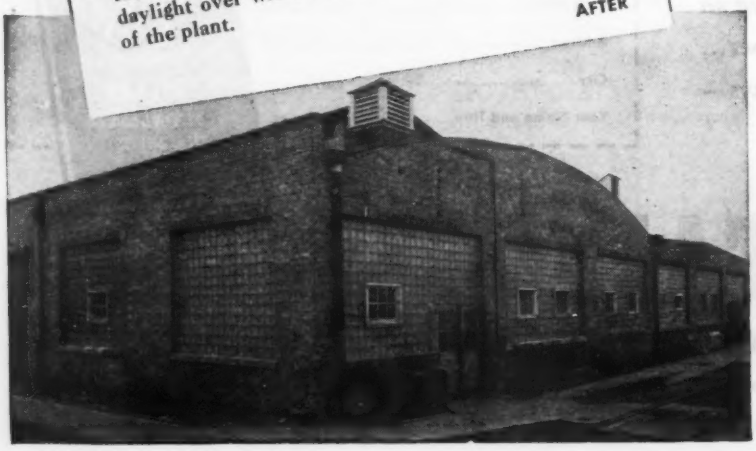


STORAGE ROOMS in this textile mill are kept cheerfully bright without artificial light. Inner partitions of PC Glass Blocks transmit plenty of daylight to all parts of the large room, cut down heat travel, help to exclude dust, need no repairs, are easily kept clean and bright.

BEFORE

IN THIS DYEHOUSE ordinary sash could not withstand the warm, humid, acid atmosphere, which causes so many materials to rust, rot, check and warp. PC Glass Block panels solved the problem because they need no repairs or replacements even under these extreme conditions, cut down condensation and heat losses, are easy to keep clean—and also diffuse ample daylight over wider areas, even into remote corners of the plant.

AFTER



PC GLASS BLOCKS increase comfort in mills, offices, factories. They let in plenty of evenly diffused daylight. They help keep temperatures at desired levels. They lessen condensation, exclude dust, distracting sights and sounds.

They also frequently effect worthwhile savings—by decreasing use of artificial lighting —reducing heat losses through lighting areas —protecting precision machinery and goods in process—lowering cleaning, maintenance and repair costs.

Because they harmonize with both modern and traditional design, PC Glass Blocks add beauty as well as utility to all new or modernized structures of whatever type.

Since they eliminate the use of sash, which so frequently rots, checks, warps and needs repainting, you can readily imagine the actual dollars they save in year after year service.

PC Glass Blocks come in a full range of sizes and designs, to meet all requirements. Pittsburgh Corning Corporation, Room 738, 632 Duquesne Way, Pittsburgh 22, Penna.

· *Also makers of PC Foamglas* ·

PITTSBURGH PC CORNING

GLASS BLOCKS

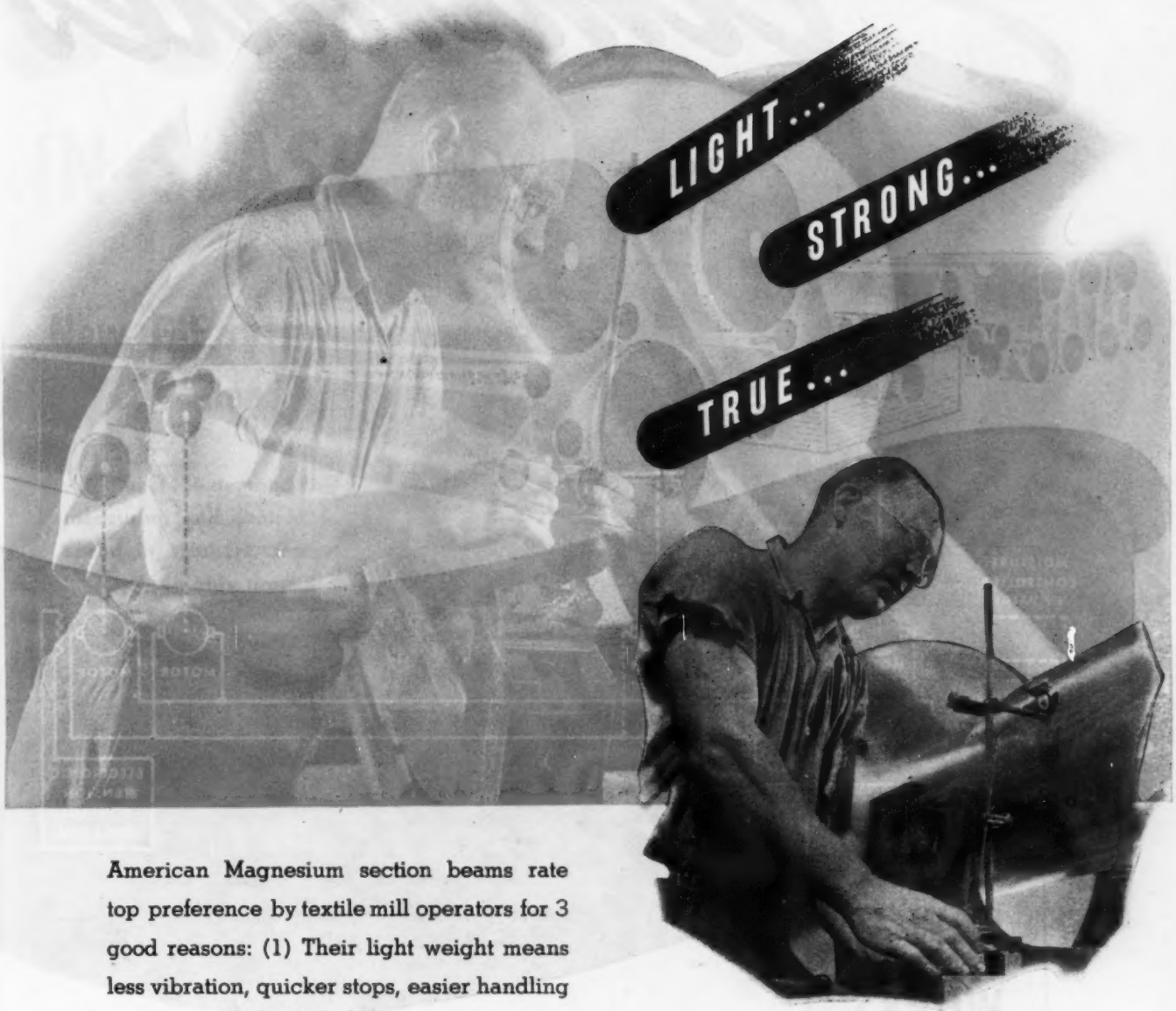
Distributed by

PITTSBURGH PLATE GLASS COMPANY

and by W. P. Fuller & Co. on the Pacific Coast

PITTSBURGH CORNING CORPORATION
632 DUQUESNE WAY, PITTSBURGH 22, PA.

MAGNESIUM SECTION BEAMS ARE



American Magnesium section beams rate top preference by textile mill operators for 3 good reasons: (1) Their light weight means less vibration, quicker stops, easier handling and lower shipping costs. (2) Their high strength and stiffness mean they'll take all kinds of yarns, including acetate and nylon . . . and fast. (3) Built true, they will remain true throughout their long life without distortion, cracking or splintering.

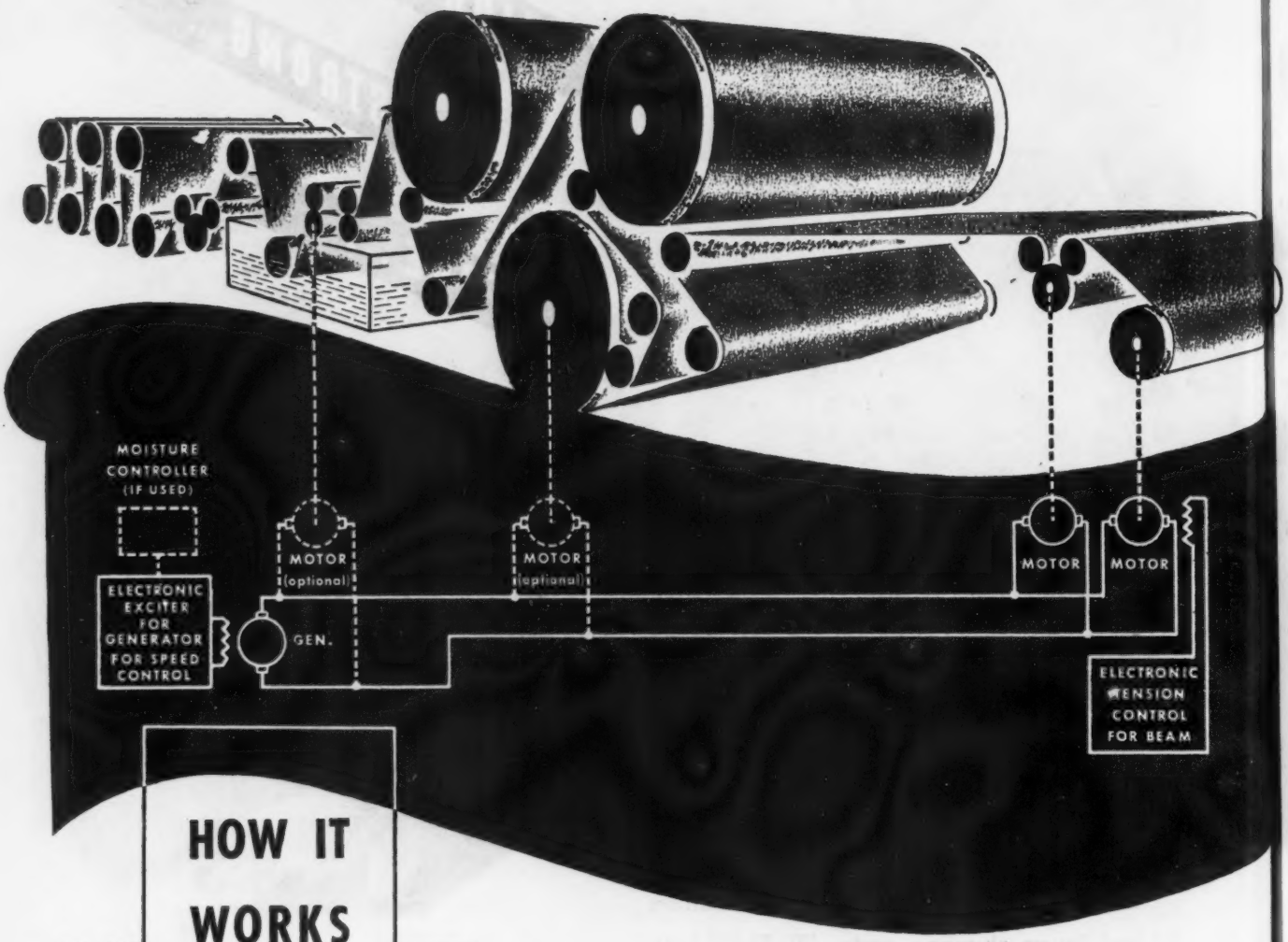
We'll gladly discuss your future requirements for section beams and warp beams of any type or size. Aluminum Company of America, Sales Agent for these products, 1705 Gulf Building, Pittsburgh 19, Penna.

MAGNESIUM MAZLO PRODUCTS

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

Eliminates

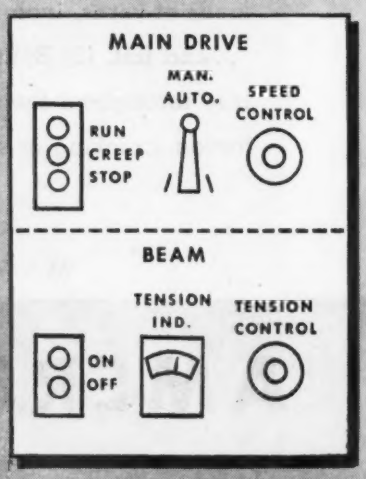


HOW IT WORKS

This G-E slasher drive is of the adjustable-voltage type, with electronic control of both yarn speed and beaming tension. The wind-up beam has its own motor, and the rest of the slasher is driven by one or more motors, depending upon individual requirements. Direct-current power is supplied to the driving motors by a motor-generator set. An electronic exciter controls the generator output voltage which, in turn, determines the speed at which the slasher operates.

Tension at the wind-up beam is controlled by an electronic tension regulator. If individual driving motors are used on each of the other elements, rheostatic controls provide tension adjustment between elements. If only one motor and line shafting are used to drive everything except the beam, mechanical speed variators are employed to regulate tension between sections.

For convenience, complete control of the slasher can be centralized in an operator's panel. Auxiliary control stations can be placed wherever desired. Beam tension is shown on an indicating instrument, and is preset with a simple selector dial.



GUESSWORK IN SLASHER OPERATION

New G-E drive—*ELECTRONICALLY CONTROLLED*—gives consistent, accurate control of tension and speed

To meet the demand for a precise method of measuring and controlling yarn tension and speed in slashers, General Electric has developed a highly practical, electronically controlled slasher drive. Because this new drive does so much to eliminate "feel" or guesswork in slasher operation, you can now consistently supply your looms with superior beams, wound with high-quality warps of uniform strength and moisture content.

The G-E slasher drive is only one of a number of G-E automatic tension-control systems designed to lessen dependence on guesswork in many textile-mill processes. Others include duo-dye-jig drives, yarn-winder drives, and warper drives.

The replacement of older, less efficient drives by modern G-E drives with electronic controls makes possible basic economies in your mill. With close tension and speed control, you can reduce seconds substantially and assure yourself of fine-grade fabrics. Maintenance of electronic equipment is simple and entails little specialized experience. A G-E application engineer will be glad to discuss further with you the advantages of electronically controlled drives. ***General Electric Company, Schenectady 5, N. Y.***

THIS NEW G-E SLASHER DRIVE OFFERS THESE 7 ADVANTAGES

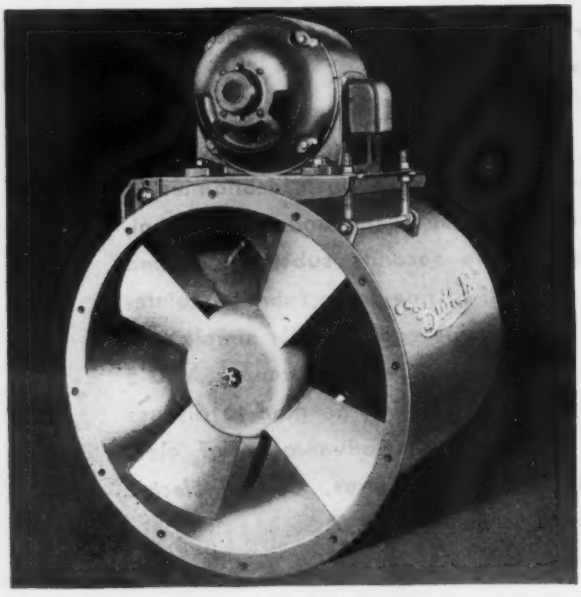
1. Yarn tension at the beamer can be selected for various yarn sizes and numbers of ends.
2. Tension, once selected, is maintained automatically by a stepless electronic control which makes an infinite number of adjustments as the diameter builds up.
3. Wet tension, between size box and cylinders, can be adjusted by manual dial setting.
4. Running and creeping speeds are preset. This means that the slasher may be stopped and restarted and yet will always automatically return to the preset speed.
5. Any danger of damaging the yarn when starting and stopping the slasher is avoided because of the smoothly controlled rates of acceleration and deceleration.
6. Yarn speed can be controlled automatically from standard moisture control equipment.
7. Friction devices and much gearing are eliminated.

GENERAL ELECTRIC

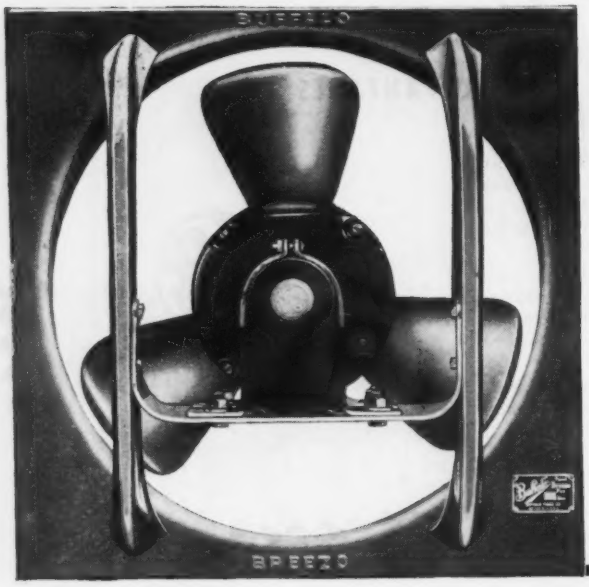
661-22-9633

Buy all the BONDS you can—*and keep all you buy*

Buffalo Direct Connected "LL" Fan



Buffalo Type "B" Axial Flow Fan



Buffalo Breezo Fan

It's Easy to pick the right fan

A comparatively few industrial engineers have had the time to make a complete study of fan characteristics. For those few, fan selection has been easy.

For most plant operating men, however, fan selection has been largely a matter of picking a fan large enough to do the job beyond a doubt.

This means that many industrial plants are paying *more* for air than they need to.

Buffalo sales representatives are graduate engineers, trained at our plant for years before going into the field. They are qualified by training and experience to pick the RIGHT fan for your requirements.

AND, because the "Buffalo" line is very broad—they can recommend the right fan without bias. Why not call them in?

BUFFALO FORGE COMPANY

184 Mortimer St. Buffalo, N. Y.

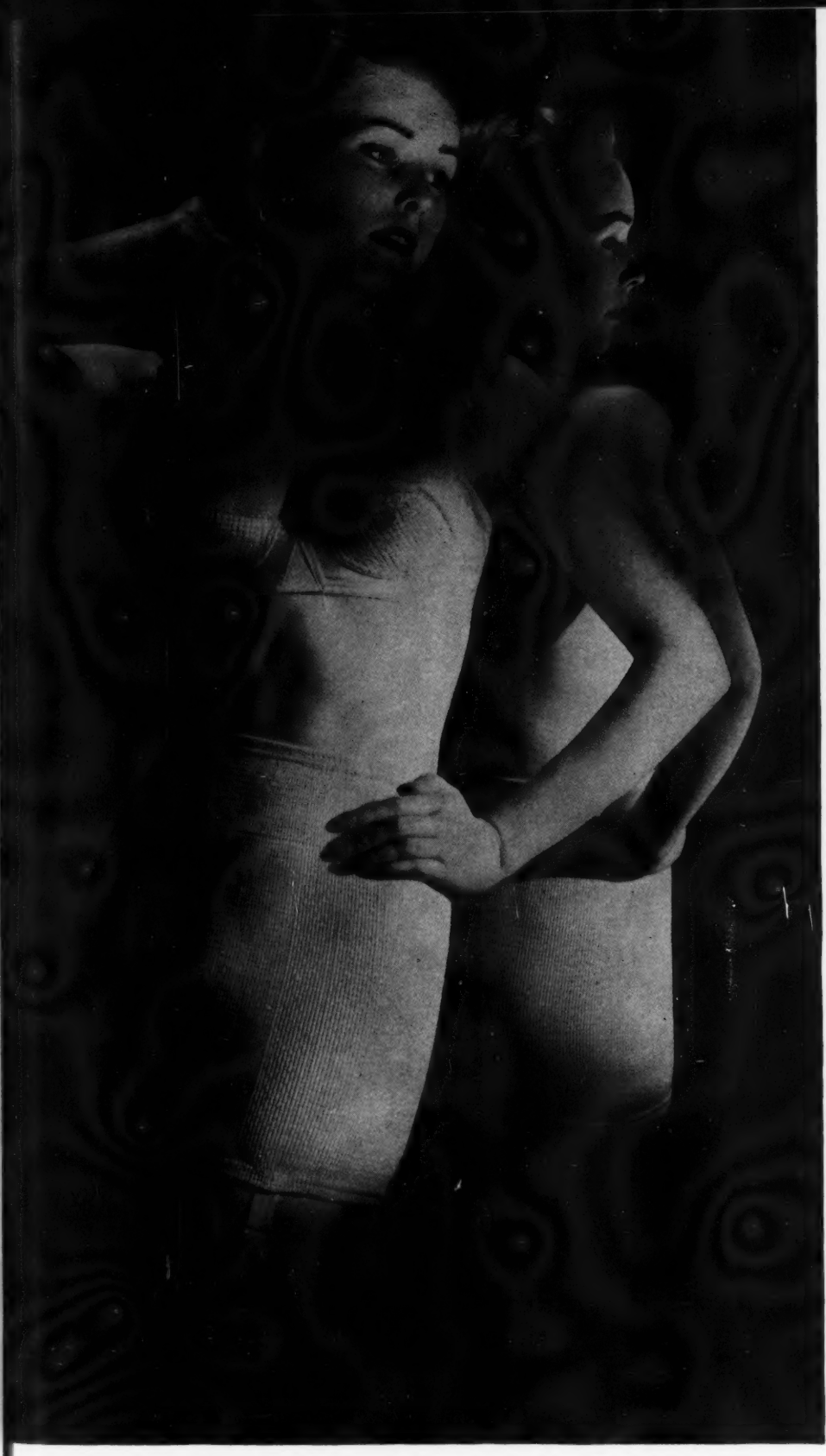
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

ARMY E NAVY

"Buffalo"

FIRST FOR FANS

Fans for the FOOD Industry



THE

Basic

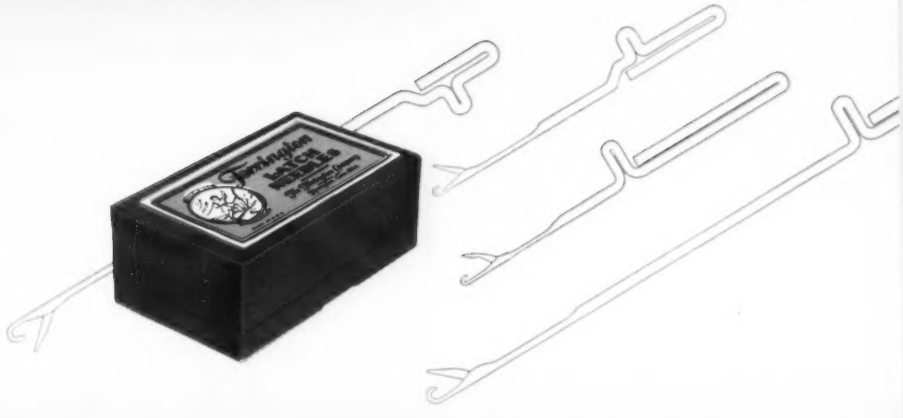
APPEAL

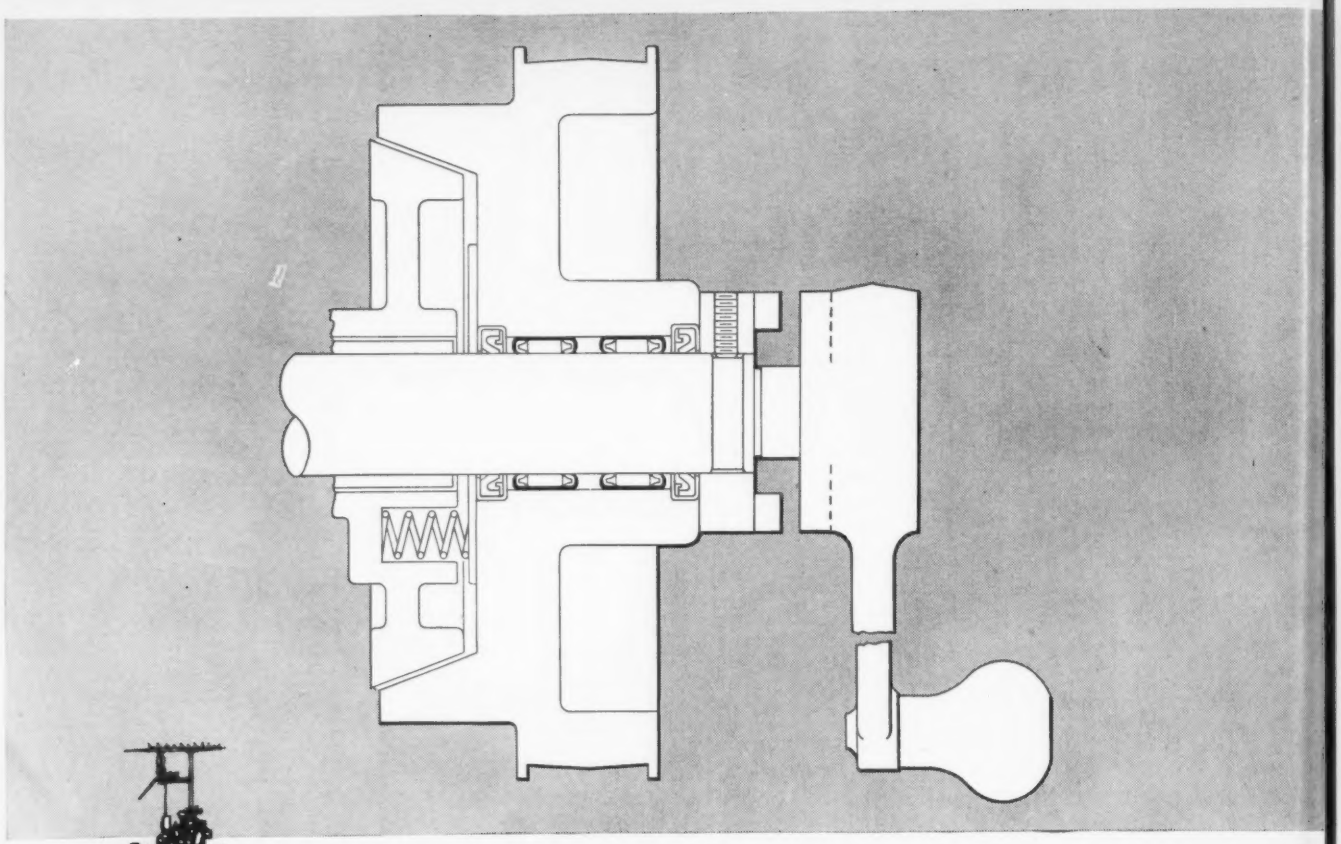
of every knitted garment depends on the quality of the knitting itself. To help give your products smooth, evenly knitted basic appeal, you can rely on the machine-made, machine-controlled quality and uniformity of Torrington Needles!

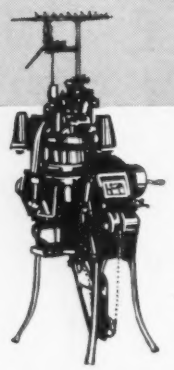
TORRINGTON *Latch Needles*

THE TORRINGTON COMPANY
Torrington, Conn., U. S. A.
Established 1866

Branches: New York • Philadelphia
Chicago • Greensboro, N. C. • Boston
St. Louis • Toronto, Canada







Typical application of compact, efficient, anti-friction Torrington Needle Bearings to circular knitting machines. These small but rugged Needle Bearings help increase speed and efficiency of a wide range of textile machinery.

Knitting Machines Equipped with Needle Bearings Produce More, Need Less Attention

Higher output due to increased speeds and less "time out" for maintenance are two reasons why so many circular knitting machines use Torrington Needle Bearings. Their smooth functioning also facilitates efficient design and operation of machines and attachments for finer gauge and more intricate patterns.

Though small and compact, these efficient *anti-friction* bearings are skillfully engineered for high speeds . . . to stand up to long periods of sustained operation . . . to give you more output with less lubrication and maintenance. On knitting, spinning, weaving and other types of textile machinery, you can measure Torrington Needle Bearing performance in terms of increased operating efficiency and lower costs.

When you are ordering new or re-equipping or re-building your present machines, you owe it to yourself to be fully aware how Torrington Needle Bearings can help you achieve more output with less maintenance and at lower cost. Write us for further data, or send for our Catalog 32, showing the numerous types, sizes and applications to textile and other equipment. It means no obligation.

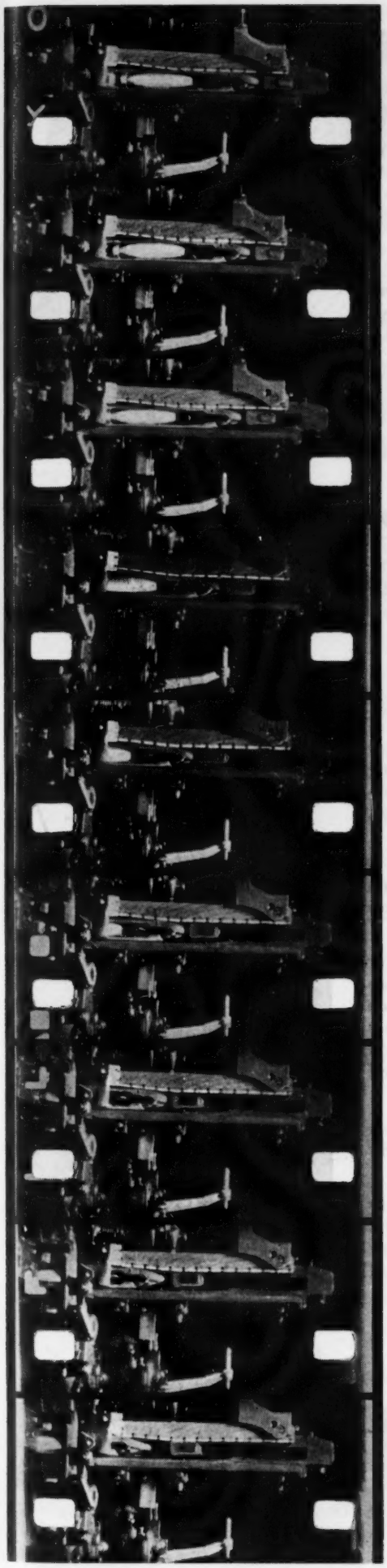
•

THE TORRINGTON COMPANY

TORRINGTON, CONN. • SOUTH BEND 21, IND.

New York Boston Philadelphia Detroit Cleveland
Seattle Chicago San Francisco Los Angeles Toronto
London, England

TORRINGTON NEEDLE BEARINGS

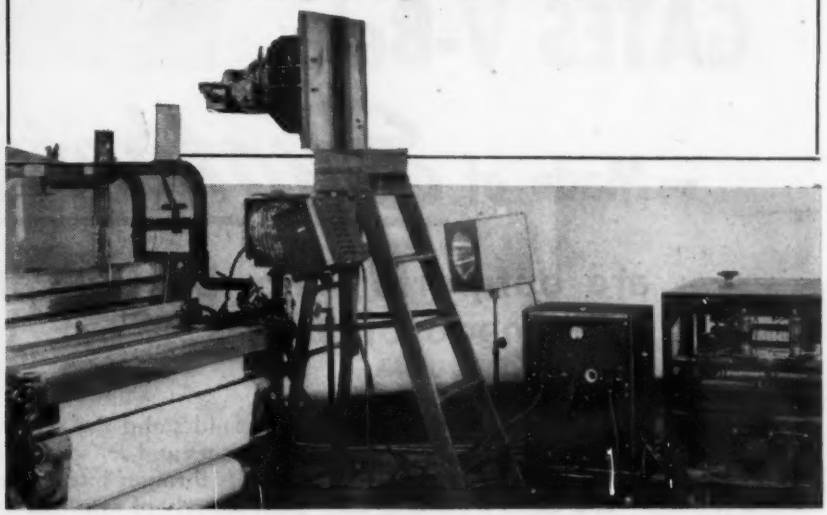


Loom-Shuttles can

KEEP NO SECRETS

FROM THE

C & K High-Speed Camera



FROM top to bottom of this page, you see a "flash" of actual film taken by the high-speed, short-exposure camera developed by C & K, and recently described in this publication.

This strip of film-frames is part of the remarkably clear visual record made of a C & K loom shuttle, just as it is picked out of the shuttle box, in normal operation. And as the complete film unwinds on the screen, C & K engineers can now *see* the answers to questions that used to be unanswerable, like these:

- Does the picker make proper contact with the shuttle . . . and for how long?
- Does the shuttle maintain straight flight?
- How does the binder act and move . . . does it bear on the shuttle or spring away?
- How long is the shuttle in contact with the binder?
- What happens to the yarn inside the shuttle . . . does it kink, catch, or slide off the bobbin as the loom picks?
- What is the actual speed of the shuttle?

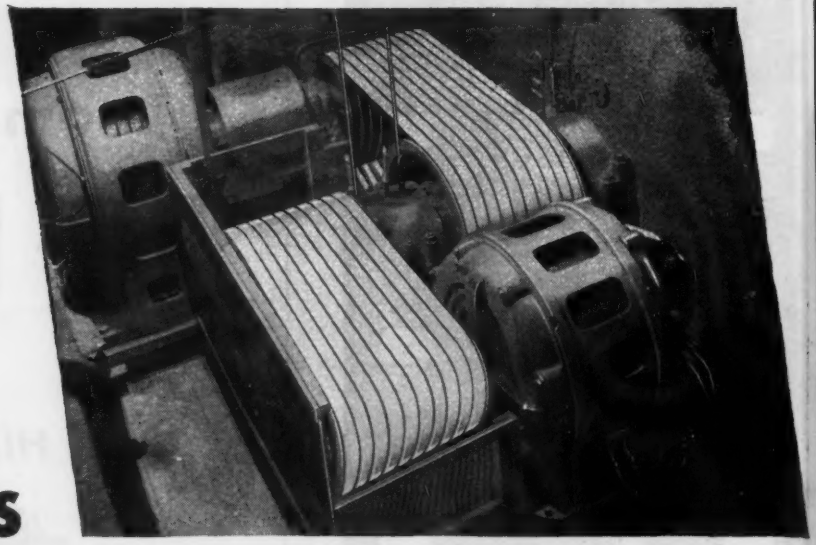
Yes, even the exact speed of the shuttle can be computed from these pictures, because the speed of the film is known, and distance travelled by the shuttle is marked on the loom. And this is only one of the studies now being conducted. Also under the searching eye of this unique photographic installation is the operation of clutches, brakes, box motion, center stop motion, magazine, feelers, and other loom components. To you, Mr. Mill Operator, the correlation of these findings, and their translation . . . as soon as proved . . . into new features of loom design, hold the certain promise of better weave-room equipment.

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

BRIDGING THE GAP between Today's War Weapons . . . and their New Uses in Tomorrow's Looms

Today-



Your *Standard* GATES V-Belts

—Made of *Synthetic* Rubber—

are out-performing *ANY* V-Belts ever made of *NATURAL* Rubber!

No V-Belts built by *anyone* before the war could stand the service now daily delivered by Gates V-Belts on army tanks, tractors and self-propelled big guns. Gates developed these greatly superior V-Belts through intensified, specialized research—and Gates is building these belts entirely of *synthetic rubber.*

This fact is now important to YOU — — and here is the reason:

● **Every improvement developed by Gates for these Army V-Belts has been added, day by day, to the quality of the standard Gates Vulco Ropes which have been delivered to you.**

In the case of many *other* products, as you know, you must wait until after the war to get the benefits of war-time improvements. But victory depends so directly upon production and production so directly upon V-Belts which drive the producing machines, that Gates has been able to give you *immediately,* in your Standard Gates Vulco Ropes, every V-Belt improvement which Gates specialized research has developed for use in the Army's motorized equipment.

In addition, where V-Belts of special construction are required, your Gates Rubber Engineer is in position to supply a Gates V-Belt that is precisely engineered to meet your special needs.

Whatever drive problem or V-Belt problem you may have, you need only to pick up your phone book and look under the heading "Gates Rubber." The Gate Rubber Engineer will bring right into your plant the full benefits of every advance in V-Belt construction and in drive operation that Gates specialized research has developed.

NOTE: GATES ALSO MAKES THESE SPECIAL BELTS TO MEET EXCEPTIONAL SERVICE NEEDS-

Rayon Cord V-Belts
Static-Safety V-Belts
Special Synthetic V-Belts
Cotton Cord V-Belts
Steel Cable V-Belts

THE GATES RUBBER COMPANY

Engineering Offices and Jobber Stocks in All Large Industrial Centers

Gates
The Mark of Specialized Research

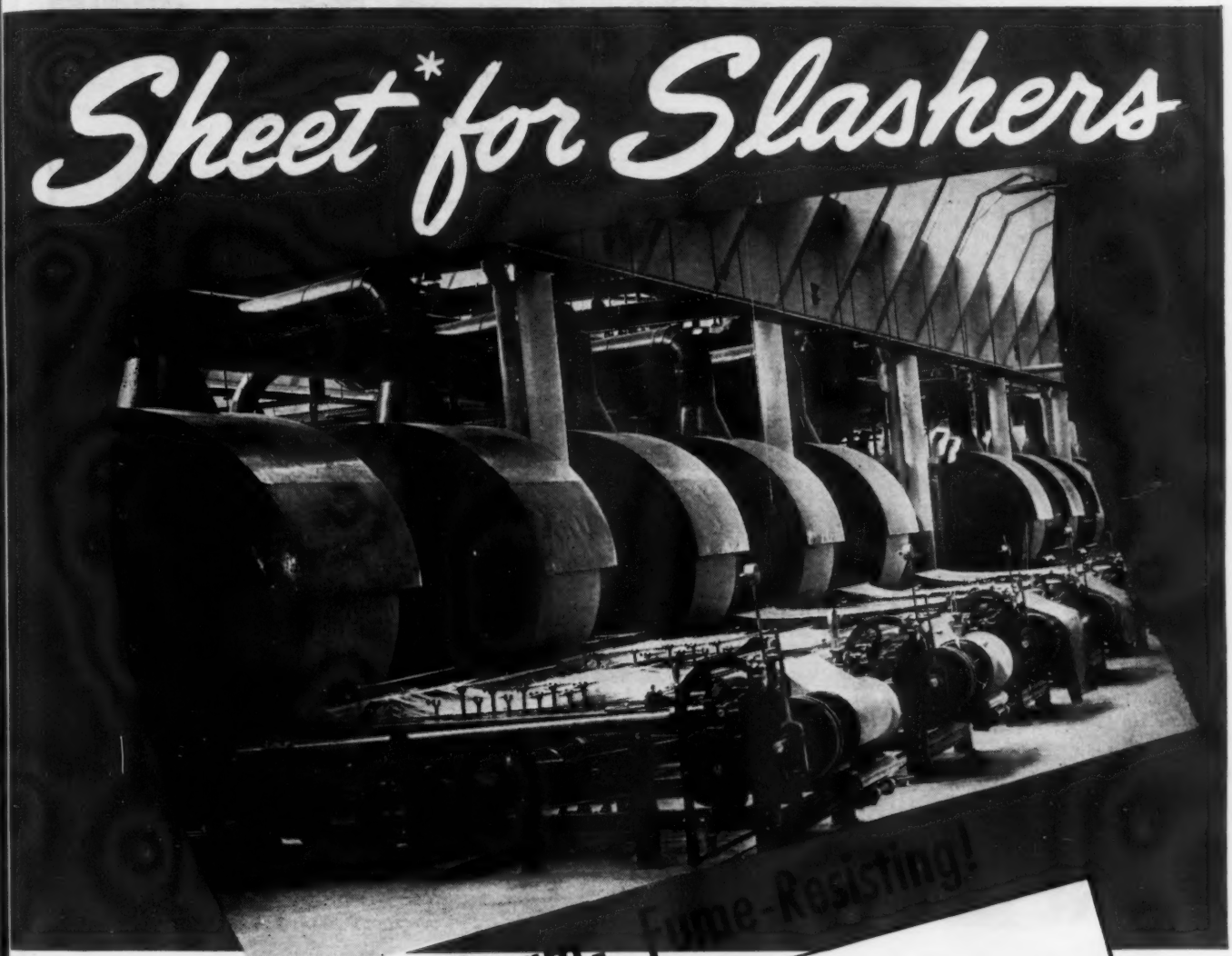
456

GATES VULCO ROPE DRIVES

CHICAGO 6, ILL., 549 West Washington DALLAS 2, TEXAS, 1710 N. Market Street ATLANTA 3, GA., 738 C & S National Bank Building
CHARLOTTE 2, N. CAROLINA, 605 West Fifth St. NEW YORK CITY 3, 215-219 Fourth Ave. DENVER 17, COLO., 999 South Broadway
GREENVILLE, S. CAROLINA, 108 W. Washington Street BIRMINGHAM 3, ALA., 801-2 Liberty National Life Bldg.

How UP-TO-DATE are you on ALUMINUM?

Sheet* for Slashers



Steam-, Fume-Resisting!

PLANNING TO REMODEL your slashers? Whether you embark on a rebuilding job, or buy new equipment, it will pay you to specify housings made of sheet rolled from R301 or one of the other great new aluminum alloys developed by Reynolds metallurgists.

Lightweight, tough, this highly corrosion-resistant sheet means longer life, lower maintenance costs. What's more, all condensation is colorless and therefore non-staining—another big saving!

Whatever your interest . . . whether you are manufacturer or user of textile equipment . . . Reynolds engineers will gladly co-operate with your engineers.

Keep your dollars fighting . . . Buy More War Bonds

***Reynolds Sheet and Strip is obtainable in various alloys, tempers and sizes as required. It is also available in quantity, fabricated to exact specification, thus saving production time and eliminating scrap. Note: Widths 24″ and under are designated strip; wider widths, sheet. Material over .250″ in thickness is termed plate.**

See Reynolds catalog in Sweet's . . . or write for complete information. Reynolds Metals Company, Aluminum Division, 2535 South Third St., Louisville 1, Kentucky.

REYNOLDS METALS

REYNOLDS ALUMINUM

Why FREIGHT ELEVATORS are important!

BEHIND this busy scene, freight elevators are constantly on the job . . . keeping supplies and even the trucks themselves moving on schedule . . . without bottlenecks . . . without confusion.

For intensive service, the elevators should be high speed, automatic in operation and provided with power operated doors. Such equipment will compensate for some of the time lost in loading and unloading operations.

If conditions require, freight elevators can be dispatched to predetermined floors to suit any cycle of operation. Also, they do not necessarily require regular attendants.

Your nearest Otis representative is now available to assist you and your Architect in making preliminary elevator plans and studies. For the finest in vertical transportation tomorrow, call your Otis representative TODAY!

Otis ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES

HERE'S LIGHT WEIGHT AND STABILITY...

FOR many mechanical and structural uses, Formica is the chosen material because of its light weight, strength, and a remarkable ability to remain unchanged under a variety of conditions.

Moisture absorption is low, and that contributes to great dimensional stability under varied conditions of humidity. The coefficient of thermal expansion is also very much lower than that of metals and that also tends to hold the original dimensions. The material possesses a high degree of chemical inertness which prevents corrosion and maintains the surface finish under a wide range of conditions.

In wearing parts the material has a tendency to wear smoothly without accumulating a corrugated surface, and that contributes to long life.

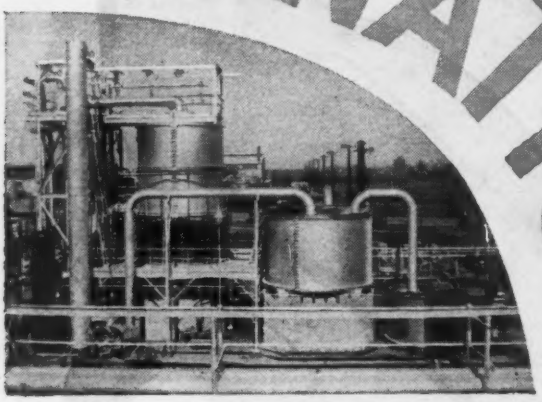
Formica engineers have a wealth of information in detail regarding these qualities which they would be glad to pass on to those interested.

FORMICA

THE FORMICA INSULATION CO., 4668 SPRING GROVE AVE., CINCINNATI 32, O.

Lead-lined steel saturators, with acid catcher at top. Designed by Otto Construction Corp., New York. Fabrication and installation by Dietzel Lead Burning Co., Pittsburgh.

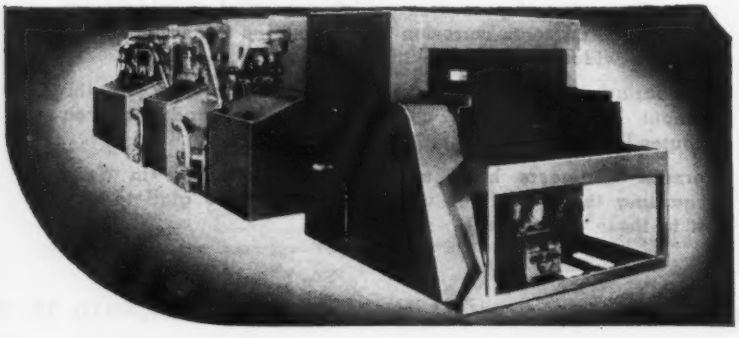
GO "NATIONAL" FOR LEAD



Simonson-Mantius acid recovery plant, including a super-vacuum concentrator and feed tank for concentrating spent acid. Designed and built by National Lead Company.

Battery of ten homogeneous lead-lined, vertical steel blow cases, ready for shipment from National Lead to a chemical plant.

Metal washing machine, lined with antimonial lead and fitted with pipe of same material. Equipped with header-type lead heating coils. All lead burning by American Lead Burning Co., Linden, N. J.



Wherever industry uses lead to control acid, there you'll find men in the know saying, *Go "National" for Lead.* For here at National Lead, are not only the *materials* but the *experience* to take care of any lead installation. For example:

(1) Tellurium Lead was pioneered by us . . . to give extra corrosion resistance at elevated temperatures and longer life under vibratory stress.

(2) Another contribution is our wide variety of acid handling equipment, including lead-lined, lead-covered or all-lead valves, pipe and fittings.

(3) We also design, and fabricate to specification, special homogeneous lead-bonded apparatus, such as evaporators, autoclaves, pressure stills and agitators.

(4) Even complete sulfuric acid recovery plants are planned and built. These feature the patented Simonson-Mantius process, with its advantages of low temperature and high yield.

(5) And, of course, National Lead has long supplied sheet, pipe, coils, and fittings of chemical and antimonial lead.

No matter what your needs...
Go "National" for Lead!

LEAD

NATIONAL LEAD COMPANY
111 Broadway, New York 6, N. Y.
Offices and Plants in Principal Cities and Canada

You gain two ways with this Loom Motor

First, you save on maintenance cost. Westinghouse loom motors are especially designed and built to resist the heavy vibration encountered in loom service. The extra rugged construction of these motors keeps them on the job and keeps production moving.

Second, you save on power costs. Westinghouse loom motors are designed to deliver high efficiency. Proper relation of rotor weight helps the motor to "iron out" some of the peak loads occurring at high frequency in loom drives. Over-all efficiency is increased—power costs reduced to a minimum.

Before you replace your present loom motors, get all the facts about the motor that has been designed and built exclusively for textile mills—the motor that can meet the strains imposed by new looms before they are "broken in". Westinghouse Electric Corporation, East Pittsburgh, Pa.

J-94604

MANY ASSEMBLY COMBINATIONS

Westinghouse loom motors are particularly adaptable for special applications. There are many possible variations in assembly arrangements including three-point suspension, left and right-hand applications, base mounted, and many others. They can be supplied for all types of special mountings or lubrication requirements.

Westinghouse loom motor designed for three-point suspension.

Westinghouse

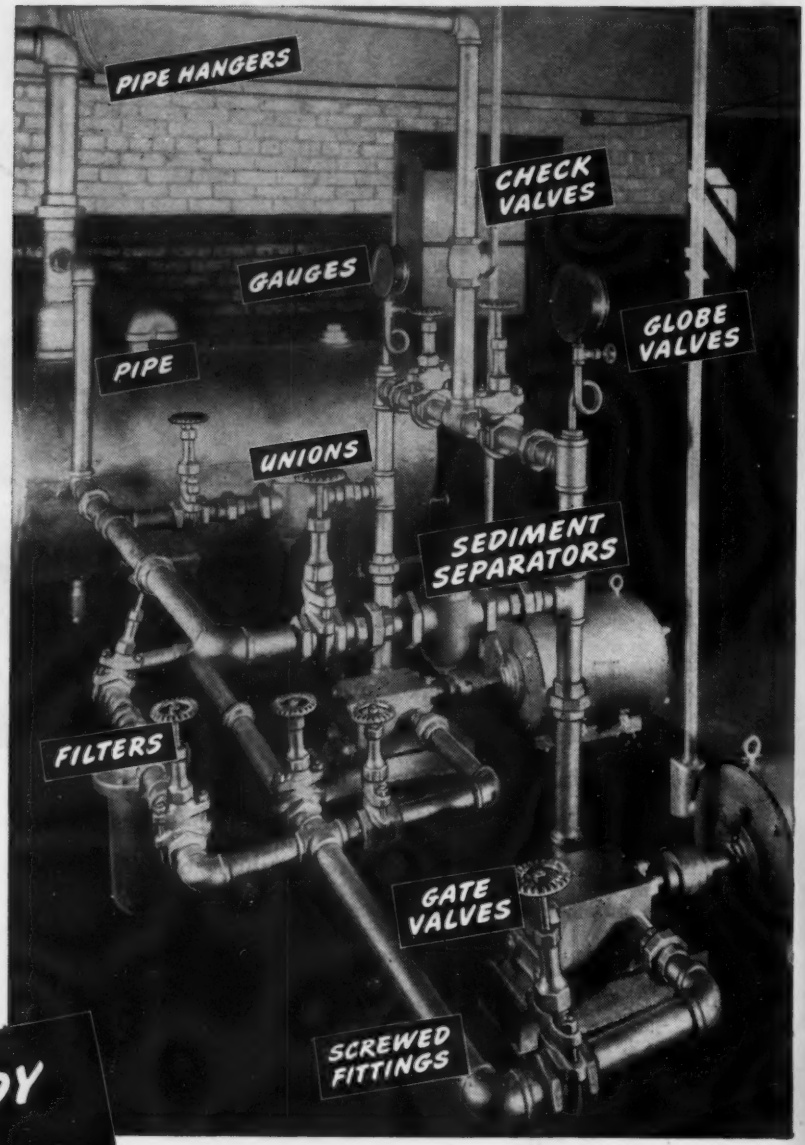
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Loom Motors

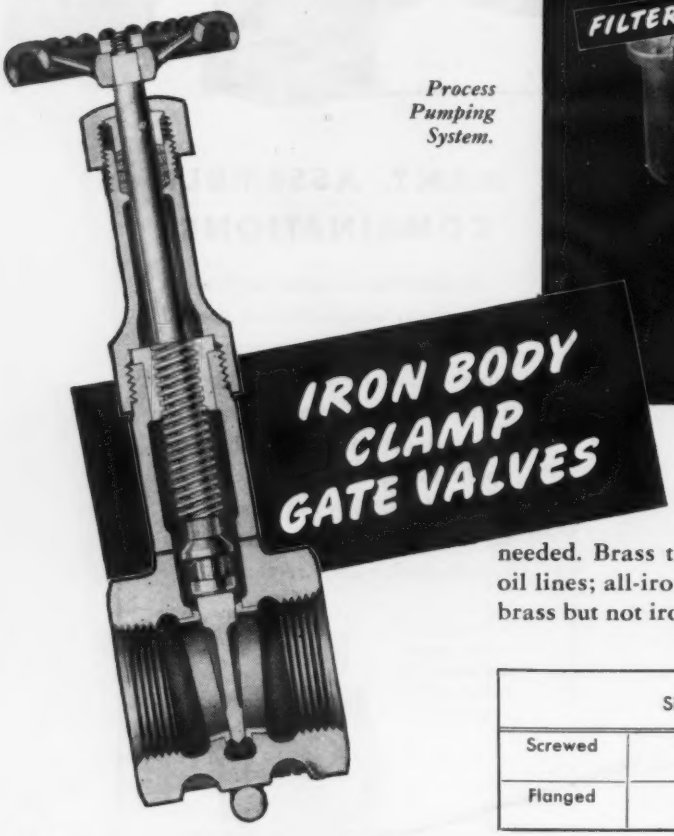
For Everything in Piping Materials ...Look to CRANE

ONE SOURCE OF SUPPLY
ONE RESPONSIBILITY
ONE STANDARD OF QUALITY

For piping at its best—use Crane *complete* piping materials service. All your requirements are supplied from a single source—your Crane Branch or Wholesaler. You choose from the world's greatest line of valves, fittings, pipe, fabricated assemblies, piping accessories—in brass, iron and steel. Undivided responsibility for quality helps assure the best installations. Depend on Crane Co.'s ability to meet your needs —for example, in Iron Body Clamp Gate Valves shown below—to simplify making deferred replacements and to keep piping at peak efficiency.



Process Pumping System.



SERVICE RECOMMENDATIONS: **Crane Iron Body Clamp Gate Valves** are suited for a wide variety of services in textile process piping where compact, sturdy valves are needed. Brass trimmed valves are recommended for steam, water, air or oil lines; all-iron valves for oil, gas or gasoline, or for fluids that corrode brass but not iron. Made in O. S. & Y. and Inside Screw patterns.

WORKING PRESSURES

Size		Saturated Steam	Cold Water, Oil or gas, non-shock
Screwed	¼ to 2-inch 2½ to 4-inch	150 pounds 125 pounds	225 pounds 175 pounds
Flanged	1 to 2-inch 2½ to 4-inch	125 pounds 125 pounds	200 pounds 175 pounds

CRANE CO., General Offices: 836 S. Michigan Ave., Chicago 5, Ill. *Branches and Wholesalers Serving All Industrial Areas*

CRANE

90 YEARS OF PROGRESS 1855-1945

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

Spotlight Suspense . . . Only clear, flawless stockings can pass the test of spotlight inspection. Every full-fashioned stocking manufacturer knows that only needles producing fabrics to pass the stiffest tests will pay big dividends. Keep your Knitting Machines young and effective with TMW Needles . . . *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

TEXTILE MACHINE WORKS • READING, PA.

"Let us run with patience
the race that is set before us."

HEBREWS XII-1.

THE WAR DECORATIONS OF TEXTILE MACHINE WORKS

Bur. of Ord. Flag and Navy "E"
July 25, 1941

One Star All-Navy "E" Burgee
January 25, 1942

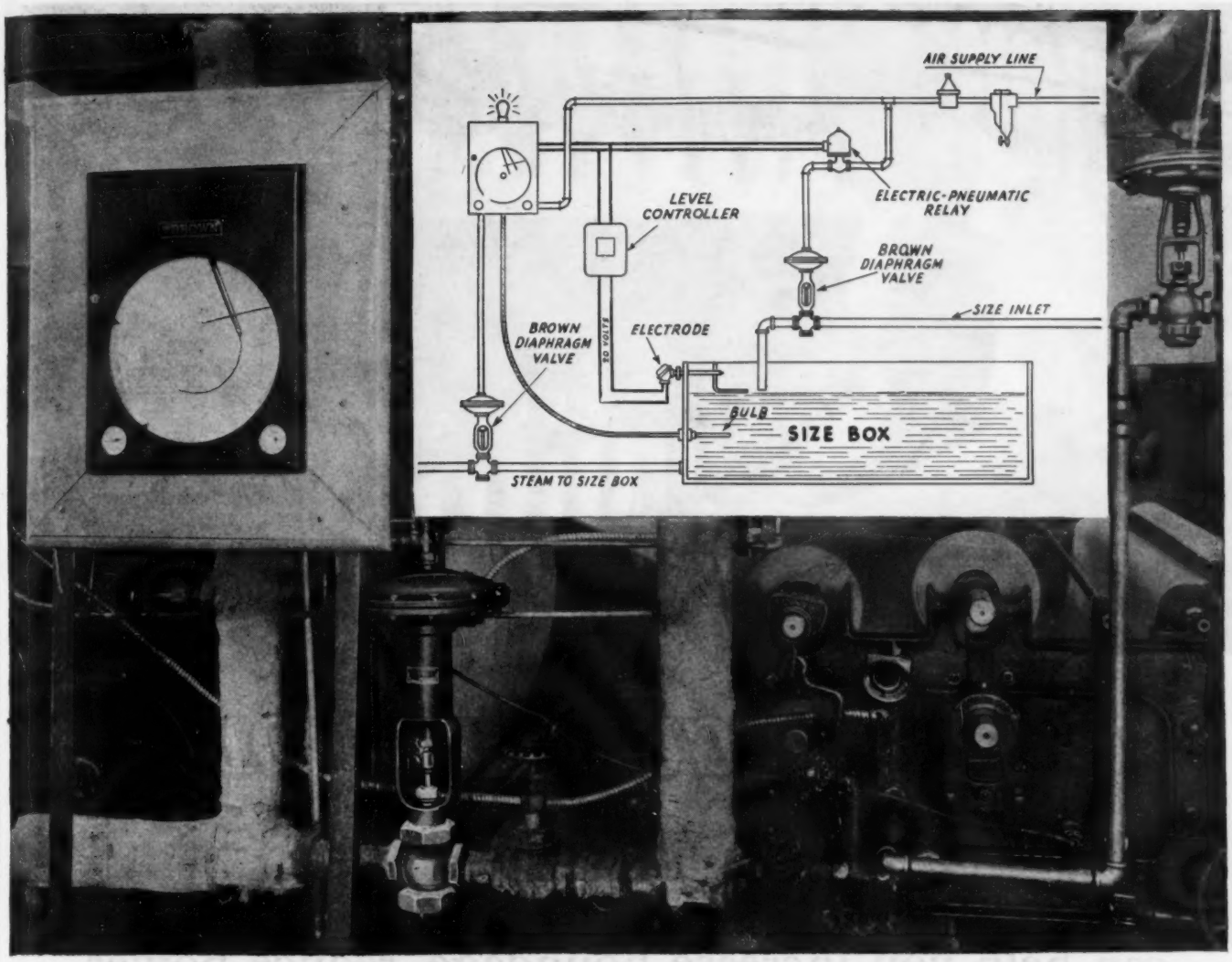
Two Star Army-Navy "E"
July 25, 1942

Three Star Army-Navy "E"
January 25, 1943

Four Star Army-Navy "E"
January 11, 1944

When material and manpower are again available we will begin production on the new high-precision READING Machines, designed to develop a new-high standard of quality and quantity production in the knitting of Full-Fashioned Stockings . . . Until such time as we can deliver these new machines to you, we will do our utmost to help you keep your present equipment at highest efficiency.

TEXTILE MACHINE WORKS · READING, PA



A Solution To SIZE BOX TROUBLES

Improperly sized beams—mean trouble in looms and finishing. To avoid this difficulty, accurate control of both temperature and level of the size box is essential.

Proven results show that when temperature is held constant, the troubles caused by improper size viscosity are eliminated.

The Brown Thermometer Controller governs the temperature of the size box to give yarn the necessary internal strength and elasticity to overcome strains in weaving.

By maintaining size box level at the "right level," contact between the yarn and size solution can be standardized to insure correct saturation and uniform coating of the fibres.

The Brown Liquid Level Controller maintains the size level at the "right level" to give the yarn compactness and smoothness to lay or bind the fibres in order to reduce frictional resistance in weaving. Operates from the electrical conductivity of the size itself and detects variation in size level much faster than other systems. Unaffected by foaming of the size solution or by air circulation and temperature changes.

The Brown Size Box Control System (shown above) is simple, inexpensive and easy to install on any type of size box.

For information write the Brown Instrument Company, 4509 Wayne Avenue, Philadelphia 44, Pa., a division of the Minneapolis-Honeywell Regulator Company, Minneapolis, Minnesota. Offices in all principal cities. Toronto, Canada—London, England —Stockholm, Sweden.

Boston, Mass.: 799 Beacon Street—Atlanta, Ga.: 4 N. Rhodes Center.

BROWN THERMOMETER CONTROLLERS

***and*. MINNEAPOLIS HONEYWELL CONTROLS**

HOW **GULFGEM OIL**

can help you increase poundage, reduce power and maintenance costs——

GULFGEM OIL is not only refined by conventional methods, but is superrefined by the Gulf Alchlor Process, which gives it superior lubricating value, long life, and high resistance to oxidation.

Here's why these assets of Gulfgem Oil are important to you: You get the kind of spindle lubrication that means less wear, fewer bolster renewels, less power consumption, and lower maintenance costs. Gulfgem is the world's finest oil for spindle lubrication!

Gulfgem Oil—and the more than 400 other quality lubricants in the Gulf line—are available to you through 1200 warehouses located in 30 states from Maine to New Mexico. Write, wire, or phone your nearest Gulf office today.

Gulf Oil Corporation · Gulf Refining Company
Gulf Building · Pittsburgh 30, Pa.

Division Sales Offices:
Boston · New York · Philadelphia · Pittsburgh · Atlanta
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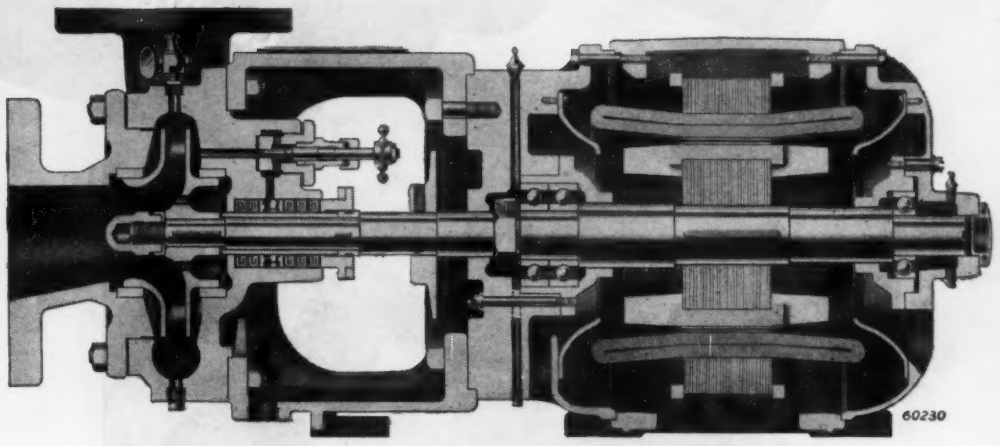
GULF INDUSTRIAL LUBRICATION

HOW LONG WILL A PUMP LAST?

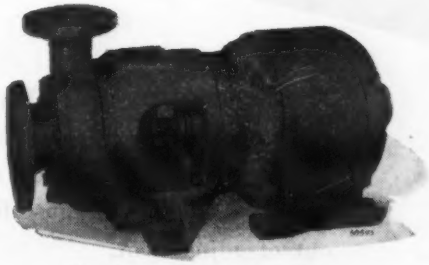
that depends ....



Cross Section of the Cameron Motorpump

How long a pump will last depends both on what you do with it and how the manufacturer designed and built it. On most jobs the life will be many years. On some services where pumps must handle corrosive liquids, careful selection of materials is necessary to insure uninterrupted service. Correct selection and installation and proper maintenance contribute materially to pump life.

The pump builder's job—what materials he selects, what manufacturing tolerances he maintains, what factors of safety he provides—is very important. Take the Ingersoll-Rand Motorpump as an example. This compact and efficient pump has an extra-heavy shaft and large bearings, and has rigid sections to preserve alignment. These and other details assure that the Motorpump will more than do its share in providing long years of trouble-free operation. Ingersoll-Rand Company, Cameron Pump Division, 11 Broadway, New York 4, N. Y.



The Cameron Motorpump

The Ingersoll-Rand service engineer will be glad to give you further details on the Motorpump. There are also other Ingersoll-Rand pumps for practically any centrifugal pump application.

Ingersoll-Rand

9-402

ALUMINUM
CAN ANSWER MANY
CONVERSION NEEDS
"...the pounding wears out straps, pickers and parts very rapidly."
"...with such high speeds it's tough to keep machinery in line, with the vibration it takes..."

HIGH SPEED: Alcoa Aluminum's light weight in textile machinery parts means low inertia on reverse motions, fast starts and stops. Reduces vibration, the major cause for machinery going out of adjustment.

LOW MAINTENANCE: Because the high strength of Alcoa Aluminum can take the constant pounding of equipment running at high speeds, you'll have less fixing and replacing of parts, lower maintenance costs.

LONG LIFE: Aluminum's high resistance to corrosion assures longer life of textile machinery. Aluminum hoods and ducts protect your textiles against stains during manufacture. Condensate produces no rust to drop down and cause seconds.

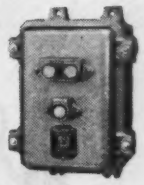
ASK YOUR SUPPLIER for equipment made of aluminum. ALUMINUM COMPANY OF AMERICA, 1942 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA FIRST IN **ALUMINUM**

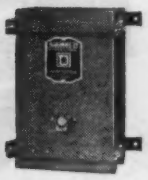
ALCOA ALUMINUM

THE RIGHT START TO EFFICIENT MOTOR CONTROL IS—

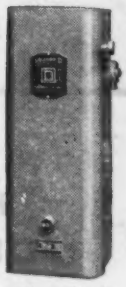
the Right Starter



Water-tight enclosure



Dust-tight enclosure



Class 8538
Combination Starter

Choose... Square D for

• COMPLETENESS OF LINE

Square D's complete range of types, sizes and enclosures enables you to select exactly the right starter for each job. Manual, Automatic, Line-voltage, Reduced-voltage, Reversing, Multi-speed.

• SIMPLICITY OF DESIGN

Square D starters are simply designed and ruggedly built to give long life under severe operating conditions. Although compact, the ample wiring space and accessible terminals reduce installation time.

• EASY, FAST MAINTENANCE

Accessibility simplifies inspection and saves valuable production time should replacements be necessary. Contacts can be quickly changed without disturbing external connections.

• When you select Square D starters, you can be confident that they'll back up your judgment in terms of consistent, efficient service. That they are designed and built to "take it" is being doubly proved by their around-the-clock wartime performance in thousands of America's leading industrial plants.

• See your nearby Square D Field Engineer for details or write for Bulletin 8536 (Line-Voltage Starters) or Bulletin 8538 (Combination Starters). Square D Company, Industrial Controller Division, 4041 North Richards St., Milwaukee 12, Wis.

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

AN IMPORTANT ENGINEERING ADVANCEMENT

Ford Announces

NEW DEVELOPMENTS in the Heavy Duty 100 H.P.

FORD V-8 TRUCK ENGINE

Ford

Here's Good News
FOR TRUCK OPERATORS

The Model 59 engine is now offered as original equipment only. It will eventually be made available as a service replacement in Ford Trucks and Commercial units already on the road.

Here are some of the important improvements in this engine:

NEW long-life Tri-Alloy connecting rod bearings . . . **NEW** aluminum alloy pistons with four rings for oil economy . . . **NEW** larger capacity oil pump with more screen area for improved lubrication . . . **NEW** crankshaft rear bearing oil seal . . . **NEW** rust-proofed valve springs . . . **IMPROVED** cooling of valve seats . . . **NEW** flat-type waterproof distributor with full automatic advance and vacuum control . . . **NEW** high efficiency fan . . . **IMPROVED** carburetion . . . **IMPROVED** intake manifold for easy vacuum pipe connections . . . **SIMPLIFIED** design provides easier accessibility for service . . . clutch can be replaced without removing oil pan . . . more parts are interchangeable, reducing the number of service items required.

IT'S HERE—the first of wartime truck engineering developments by Ford to be made available to civilian operators.

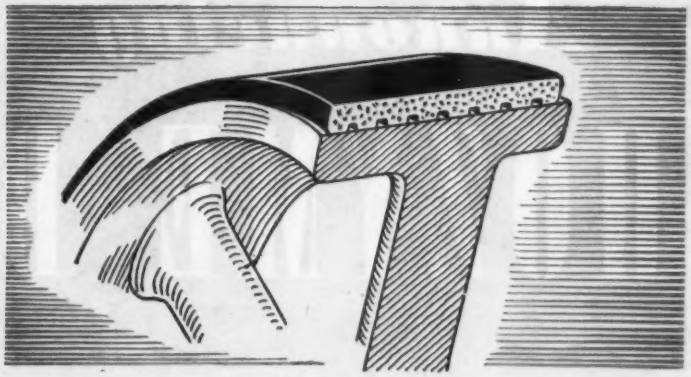
An improved Heavy-Duty, 100 H.P. V-8 Engine now powers Ford Trucks and Commercial units which are in limited production for civilian priority holders.

This great power plant is the Model 59. You'll be hearing a lot about its fine qualities. It includes many of the Ford Truck engineering advancements made in response to military needs which are proving valuable in civilian trucking.

These improvements, affecting virtually every operating part of the engine, raise Ford Truck engine performance to new high levels of stamina, economy and efficiency—with new and important *service* benefits of interest to every truck owner and maintenance man.

Read about them in the text at the left.

FORD MOTOR COMPANY



To the man who has never used

TREADED LEATHER BELTING

on textile drives

If you could increase your production per machine even a fraction of one per cent merely by installing a more efficient belting drive, that small expense would soon pay dividends.

Houghton's Treaded leather belting will give you more production because of its flexibility which enables it to hug the pulley at all speeds, and its patented tread which means "more grip—less slip".

By treading the belt, we increase the pulley contact pressure on the raised portion without increasing the total tension or having to run the belt excessively tight. The principle is much the same as that of the non-skid tire; decreasing the contact area increases the resistance to slippage.

The quality of Houghton's VIM Tred and OKAY Tred Leather Belting has not been adversely affected by war shortages. The exclusive tannage and the high quality craftsmanship of belt making are the same today as in pre-war times.

The most efficient short center drive you can install is a combination of VIM Tred Leather Belt and a pivoted motor base whereby uniform proper tension is maintained automatically.

Get the story of treaded leather belting from the Houghton man and you will decide to make the next belt you buy, the best belt you can buy—make it VIM Tred or OKAY Tred. E. F. HOUGHTON & CO., 303 West Lehigh Avenue, Phila. 33, Pa.

Houghton's

TREADED

Leather Belting

Announcing

RHOZYME DX

for a New Standard of Efficiency in HIGH-TEMPERATURE Desizing

***Thorough penetration of the fabric and complete, rapid solubilization of the size*—these are advantages of the unusually high-temperature desizing made practical by RHOZYME DX.**

There is *no decrease in enzyme activity* even when RHOZYME DX solutions are held at 160°F for as long as four hours. For jig and kettle processing, temperatures from 170°F to 180°F can be used safely.

RHOZYME DX also retains its stability during long periods of storage even in warm summer weather. Fabrics desized with it have a softer, fuller, more attractive hand than those desized with materials available in the past.

For detailed information on methods of using RHOZYME DX to best advantage, write us today.

9 awards to Rohm & Haas Company and its associated firms, The Resinous Products & Chemical Company and Charles Lennig & Company

RHOZYME *is a trade-mark, Reg. U. S. Pat. Off.*

Represented by Cia. Rohm y Haas, S.R.L., Carlos Pellegrini 331, Buenos Aires, Argentina, and agents in principal South American cities.

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Manufacturers of Chemicals for the Textile, Leather and other Industries . . . Plastics . . . Synthetic Insecticides . . . Fungicides . . . Enzymes

RUSSIA AND AMERICA

ALLIES—or else . . .

VICTORY in Europe was won only through the combined endeavor of the United Nations. Only through sustained joint effort can the fruits of that victory be reaped.

Without disparaging the truly heroic contributions of others, three of the Allies may fairly be credited with having made the major contributions to victory over the European Axis—the United Kingdom, Russia, and the United States. The close accord of these three nations is no less crucial to the accomplishment of the tasks that remain.

First of these is the war against Japan. It still requires winning. Even without any help from others, the United States could make good this victory, but the war's duration will be speeded by the marshaled effort of the United Nations.

Next, and not less important, is the task of establishing a basis for enduring peace. In this struggle our enemies are more formidable than any we have faced—national ambitions, prejudices, suspicions and distrusts, the staggering burden of tradition and debilitating cynicism born of past failure, the cleaving wedges of divergent languages, thought patterns, economic creeds and procedures—an array of difficulties as baffling as fog and as formidable as a deluge. They can be vanquished only by a continuance of the working accord between the United States, Russia, and Britain that was forged on the anvil of European conflict.

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This high appraisal of the decisive importance of the Big Three in determining the destiny of the United Nations organization, in no way depreciates the importance of the role to be played by France, by China, or the other freedom-seeking nations represented at San Francisco. All of us are committed to the building of a genuinely representative security organization in the conviction that by such means alone can we possibly achieve a just and lasting peace. But the strength of any international machinery will depend upon the validity of Russian-British-American cooperation. If these three are able to achieve substantial harmony of aim and procedure, a world organization that includes them can operate with effective coherence. If they pull apart, the United Nations will break up into competing and jealously hostile blocs.

This is inevitable because of the sheer weight of these three nations in the world's affairs. Between them they account for perhaps half of the world's income and from two-thirds to three-quarters of its industrial output. Once Japan has been crushed, they will control an overwhelming preponderance of the world's armed might. Each of them will wield military power on a scale quite beyond the power of any embryo security league to hold in check. Only if all three are resolved to keep the peace and to enforce it through the Security Council, can that body hope to accomplish its aim.

Although there is a tendency on both sides of the Atlantic to indulge somewhat recklessly in mutual criticism, the ties between Britain and America are too firm to be severed by any foreseeable strain. But that has not been true of our relations with Russia. Even while fighting a war in which our respective ways-of-life were at stake, the inestimable services of each to the other were rendered as friendly but independent associates rather than as fully trusted partners. Now again, as we approach the difficult and vitally important task of building a world organization and of devising a European peace, the task of our delegates is complicated by national attitudes under which each hopes for the best from the other, while fearing the worst.

But the stakes for us both—and for the rest of the world—are too high to be played for in a diplomatic poker game. Russia has no inhibitions in demanding what she wants, and our own vital interests must be stated and upheld with undeviating firmness. Yet we both must face the stark fact that few advantages that either nation might gain at the cost of dissipating the good will of our wartime association could be worth the price thus paid.

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The first steps toward establishing confidence lie in a frank recognition of what may contribute to the lack of it and in a definition of what can be done to restore it.

1. *Probably the greatest single area of reciprocal distrust between Russia and our own country is based on the fear of each that the other may try to interfere with its domestic, economic, and political affairs.* Each purports to see the beam of meddlesome intervention in the other's eye, while it ignores the mote in its own. Thus the Soviet Union remembers that we participated in the foreign military intervention at the time of her civil revolution, and afterwards lent our support to successive boycotts of her trade, of her gold, and of her credit needs. For our part, we remember the Soviet Union's doctrine, and

aggressive support, of revolutionary international communism.

We feel that Russia should find satisfactory evidence of our present willingness to have her develop her internal institutions as she will in the aid that we have given her during the war, and in the record of our good-neighbor policy as applied to Latin America. She, no doubt, resents our lingering suspicions in the face of her declared policy of 1941 to refrain from any attempt to influence the political or economic structure of foreign nations. Certainly, each of us will need the repeated reassurance that can come only through sustained performance by the other in the years ahead. Meanwhile, much will be gained if each will give to the other's good faith the benefit of the doubt, while it scrupulously guards its own conduct to avoid even the appearance of backsliding.

2. *A second zone of suspicion is created by those measures which each of us interprets as natural and necessary bulwarks of national security when they are our own, but as evidence of dangerously aggressive imperialism when taken by the other.* In our view, at least, such demands as we have voiced for island trusteeships or for other naval bases appear mildly conservative as compared with Soviet claims for annexation of territory and for a general orbit of influence, under governments friendly to her, throughout eastern Europe in particular.

There can be no easy solution to that problem. Bi-focal vision, by which one nation can look through a second lens ground to the prescription of another, seldom is achieved in international affairs. The success of the San Francisco Conference will provide a mechanism for international definition of principles and procedures which at least might relieve the inevitable strains. Most important will be the record of how each of us proceeds in our respective courses of action. Soviet performance thus far is highly unsatisfactory to us. While we have taken pains to clear our procedure with her, she has taken action in the Baltic, in Austria, and in Poland without even advance notice to us.

A major test of our ability to cooperate may be found in the Allied administration of conquered Germany. The proposed four-headed control of a four-way partitioned nation promises to be at best an extremely awkward mechanism of administration. At worst, it can result in continuous and dangerous bickering between the representatives of Britain, France, the United States, and Russia in the Berlin coordinating center, and in hopelessly divergent procedures in their several zones of administration. There will be a compelling need for all of us to exercise all of the wisdom and cooperative resolve that we possibly can muster.

3. *A third testing ground for the future of American-Soviet relationships will be defined by the course of Russia in our continuing war with Japan. We are not unmindful of the toll paid by the Soviet Union in its magnificent European war effort. But we still are locked in a desperate struggle with an enemy that exemplifies the Fascism which America and Russia equally denounce. And that war is being fought in an area where Russian interests are importantly at stake.*

Russia has an extraordinary opportunity to create good will by throwing her weight speedily and effectively on our side. There is no doubt but that the final Pacific settlement will generate problems comparable with those of the European peace, but it is equally certain that th continuation of the European comradeship in arms co do much to promote an enduring and confident postwa friendship.

4. *A fourth, and highly important, potential sourc of suspicion and irritation is the intellectual blockad that the Soviet Union has maintained against the fre flow of travel, intercourse, and exchange of ideas.* We can understand the genesis of this policy and the reasons for its continuance while Russia entertained a constant fear of attack by powerful enemies. But the sustained perpetuation of such a quarantine by so strong a nation as the present U.S.S.R. could not be accepted as a protective measure. Inevitably it would generate suspicion that it was rather an instrument of nationalistic isolation or even of contemplated aggression. A way-of-living, at arm's length, with a nation that maintains such intellectual quarantines is possible; any whole-hearted partnership of effort is quite impracticable.

5. *Trading between a free-enterprise nation and one that operates all foreign commerce as a governmen monopoly can give rise to many frictions.* That subject is too complicated for exposition here. Suffice it to say that while difficult, it is not impossible to conduct such trade with mutual advantage. We are in a position to help Russia greatly with her program of industrial rehabilitation and expansion at great saving of cost in terms of her current scale of living. In return, we must have assurance that her government monopoly trading will be conducted for commercial rather than political ends, and that it will be used to encourage rather than to restrict multilateral and non-discriminatory world trade.

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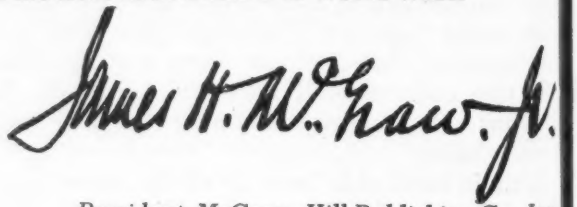
This is a representative list of the major areas in which misunderstanding and distrust may be generated, or allayed, in Russian-American relationships. No doubt, an equally honest list drawn by a citizen of the Soviet Union would be more heavily weighted by those features of our behavior which irritate and stimulate distrust on their side. If such a catalog were to be presented, it should receive our most searching and responsible consideration.

For it is of utmost importance that our two nations, in concert with the other United Nations, learn how to get along in mutual confidence and respect. Our understanding of each other now is so imperfect that our negotiations are punctuated with continuous irritations over *little issues*. This, inevitably, will continue until such matters are submerged in the general confidence that can be achieved only through satisfactory settlement of the *big issues*. We must succeed in this, or the defeat of Japan will merely mark the end of the Second in a series of World Wars.



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The Effect of REDEPLOYMENT on the Textile Industry

NO COASTING for Textiles On the Road to V-J Day!

HIGHLIGHTS: **Textile requirements remain high. Actual increases are demanded. Lend-lease and private exports loom large. No important changes in WPB and OPA regulations in sight. Tax structure to stand till end of Jap war. Reciprocal trade principle poses problems. New products and revived merchandising in sight but largely withheld until V-J Day.**

By GLADYS MONTGOMERY
Washington Editor, TEXTILE WORLD

REQUIREMENTS for textiles will remain at the present high levels, at least through the third quarter, with the possibility of increased demands from the military for certain cotton-textile items. In fact, there are no signs of any easing of over-all demands for cotton textiles. Dr. Murchison, president of the Cotton-Textile Institute, has predicted that they will be critical for fully 18 months after the Japanese war is over.

Military authorities have pointed out that, paradoxically, a one-front war is likely to require even more textiles than the two-front war. There is a span of approximately 30° latitude between the Philippines and the Japanese islands. Operations in the Philippine area call for cotton clothing, but as the center of activities moves toward China and Japan, warmer clothing will be needed. There is also the possibility that this country will be called upon to equip a Russian army for the Jap war. At the same time, there will be a sizeable army in Europe to be provided for.

Furthermore, the Combined Resources & Production Board has indicated that we can expect a world deficit of cotton textiles reaching, in 1946, at least 1,250,000,000 yd. (woven and knit), exclusive of the U. S., Great Britain, Canada, and India. This prospect makes it plain that cutbacks in the aggregate will be negligible for the months ahead.

NO HAZARD FROM CUTBACKS. There is no hazard to the mill man from cutbacks or cancellations in Period One,

. . . Pacific war requires both warm- and cold-climate uniforms . . .

. . . Army and Navy are now considering textile requirements jointly . . .

the interval between V-E and V-J Days, according to the military. It is not expected that WPB controls will be loosened to the extent that any facilities will be released for other than essential production as outlined by the government. Military commitments on nearly all contracts extend through the third quarter, many into the fourth quarter, of 1945. Of course, there is no doubt that there will be some terminations, but these will be more than compensated for by shifts to production of other vital items.

In the case of cotton duck, particularly numbered duck, Quartermaster pool requirements are still so great that duck-purchasing officers have moved to New York as a part of the newly established joint Army-Navy purchasing office, so that they may operate more closely with the industry. As the war-requirements emphasis swings to the Pacific, QM officials say that more duck will be needed. Before V-E Day, the Army had estimated its cotton duck and webbing requirements for 1945 at 615,000,000 yd. of duck and 675,000,000 yd. of webbing. According to QM officials, these estimates will remain unchanged. Broken down, the Army requirements for the third quarter of 1945 total 166,000,000 yd.; and for fourth quarter, 150,000,000 yd. QM is experimenting with the possibility of using 9-oz. combed oxford for shelter halves in place of duck.

There is talk in WPB that cutbacks will occur in tent twills and other duck substitutes produced under the duck program, which means that looms would be diverted to much-needed work clothing. There are those who foresee cutbacks in duck during the third quarter, although probably not the No. 10 duck so much in demand.

No let-up in Army's drive to speed production of wool top nor the fabrics into which it goes—such as wool serge, other uniform cloths, underwear, socks, and sweaters—is in sight for the third quarter.

WAIT FOR 1946. The fourth quarter does show some cuts across the board in wool fabrics. But the backlogs from the third quarter will take up the slack. There will be no substantial cutbacks before the beginning of 1946, according to government officials. A Navy committee has been appointed to check over Army surpluses for items that the Navy could use. Unless such a study should reveal sizeable amounts of goods, Navy does not anticipate any significant cutbacks.

Foreign Markets Gaining in Importance

Following defeat of Germany; lend-lease of textiles continues both for use in the Japanese War and, in diminishing amounts, to fill the needs of liberated areas of Europe. The whole program is being carefully reappraised, since lend-lease is limited by law to war use. It is certain that as long as supplies are needed by the Allies for this purpose, they will continue to be sent under lend-lease agreements.

Foreign Economic Administration officials have indicated a drastically reduced over-all lend-lease program to European countries and to the British Commonwealth. They estimate that transfers under lend-lease to the United Kingdom, Australia, New Zealand, and India during the first year following V-E Day will be approximately $5,747,000,000 as against $10,674,800,000 actually shipped in 1944.

President Truman asks for a total appropriation of $4,375,000,000 for the next 12 months. FEA also indicated that there probably would be no sudden termination of shipments of large categories of goods to France, Belgium, and Holland under lend-lease.

. . . American textiles in all parts of the globe . . .

Commercial exports of textiles will not show much change for a while due, in large part, to the tight supply at home. Separate figures for commercial exports of textiles are not available. Grouping non-lend-lease and lend-lease together, the total of all textile fibers and manufacture of textiles for the first nine months of 1944 was $417,000,000, according to Department of Commerce. Out of the $417,000,000, cotton cloth, duck, and tire fabric amounted to $103,000,000; (453,000,000 yd.); wool manufactures, $114,000,000; synthetic textiles, $43,000,000; raw cotton, $58,000,000. Irrespective of the portion of this total that may have been commercial sales, the trend will be to turn more and more exports to private enterprise in liberated areas. Exports of textile machinery will amount to very little in Period One after V-E Day.

LATIN-AMERICA. The Latin-American market, according to Washington opinion, will be predominantly a U. S. market, as also is the case with the Canadian market. No serious competition from Latin America need be feared for some time, it is said, since the quality of its goods is not comparable on the whole to ours, nor does it have the "know-how" to compete with our textile industry.

French textiles will not be exportable for some time because of home needs. A small amount of Belgian textiles may be exportable next year. Great Britain can take care of herself and also have textiles for export. Russia is an unknown quantity as far as the textile industry goes.

The status of United Nations Relief & Rehabilitation Administration is simply this: It can use all the clothing textiles and raw material that can be allocated to it for use in liberated areas. However, the relief agency is faced with a double uncertainty—how much it can get out of the available supply of textiles, and how much money Congress will appropriate for this work when the present funds are gone.

Surplus military goods present no immediate problem to the textile industry. Whatever items may be declared surplus in the months immediately ahead will be in demand for foreign-relief purposes. Also, Army has the responsibility of maintaining populations in liberated areas for at least six months after hostilities cease. In all probability a large amount of surplus supplies will go for this purpose.

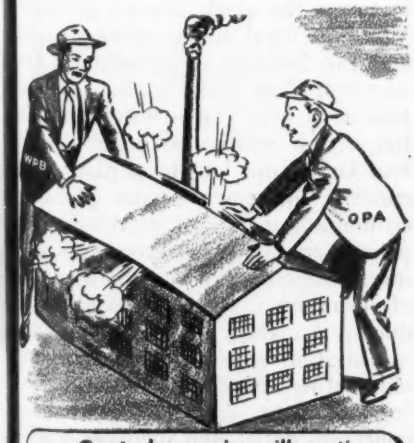
Reciprocal Trade Treaties Opposed

Congress will of a certainty reaffirm the Hull reciprocal trade policy. The power to enter into reciprocal agreements is now quite generally accepted, not only as a good-will gesture, but also as a potential bargaining weapon. Even more important, it is regarded by government officials as a necessary mechanism to assure a healthy flow of international trade. Without such trade, many of the financial and security plans now under consideration become meaningless and inoperative.

Whether or not Congress will go all out and enact the Doughton Bill without change remains to be seen. The bill, H. R. 2652, would extend the Trade Agreements Act for three more years after June 12, 1945, the date of expiration. It would give the President the authority to cut tariffs by as much as 50% of the rate in effect on Jan. 1, 1945, as against the present permitted reduction of 50% of the rate of 1934 when the first trade agreement was enacted.

In the intervening period, agreements have been entered into with 26 foreign countries. Out of 3,000 items on the tariff list, the rate has been reduced on 1,226. On 500 of these, the reduction has been 50%, and it has averaged 40% on 906 items. Trade agreements have affected 54 items of cotton manufactures; 80 items of wool and manufactures of wool.

Here is what could happen to the present tariff structure under the proposed bill. There could be a reduction of 75% on 500 items, constituting one quarter of the dutiable items. There could be a reduction of anything between 50 and 75% on 906 items making up one third of the imports, and a reduction of 50% on 1,774 items constituting 5/12ths of dutiable imports—items which have not yet been subjected to a cut.



. . . Control agencies will continue most restraints on the industry . . .

WANT TARIFF PROTECTION. There is strong pressure, a substantial part of it from the textile industry, in favor of modification of the Doughton Bill both as to the time of duration and the basing of permissible cuts on the 1945 rates. Textile interests go even further and argue that textiles should be left out of the picture entirely because what is at stake here is the entire home industry.

Representatives of the cotton-textile industry argue that if the industry is not protected by tariffs, the entire cotton program of the government will collapse. The cotton-textile industry in this country is of course the principal processor of raw cotton. If cotton is to continue as a major crop, it must depend on the American cotton manufacturing industry. It would be impossible to maintain parity or the equivalent of parity if the bulk of the crop has to be exported. In general, the recommendation of the Cotton-Textile Institute, as presented by its president, Dr. Claudius Murchison, is that domestic processing of staple agricultural commodities be protected by tariff rates which will assure that the landed cost of competitive foreign goods be not less than American costs. Arthur Besse, president of National Association of Wool Manufacturers, has vigorously opposed the tariff-cuts as ruinous to the wool industry.

There is a fair possibility of a compromise which would limit the life of the proposed new act to two years or conceivably one year. Some demands have been made that Tariff Commission, or Congress, be required to examine the cost of manufacturing competitive items before tariff cuts are made by the United States in specific cases. There is a possibility that Congress will place a more limited ceiling on the Presidential authority in making cuts than the Doughton Bill contemplates. It is argued that it would be better to reserve what new bargaining power the United States may have until peace is established and not make any further changes until that time.

No Important Textile Controls Will Be Dropped

Capt. J. A. Krug, chairman of WPB, has stated that no important textile controls will be dropped. However, this does not mean that the orders will stand as they are. There will be changes by amendments.

For example, look for some changes in the percentage of set-asides under M-317.

Also L-99 (which specifies types of constructions which cotton spindles and looms may produce) probably will be amended in the third quarter to direct some reconversion from duck to denim and work-clothing items. Army gives no indication of reducing its requirements, but civilian needs for work clothing must have some consideration, it is believed.

. . . Inter-agency committees have been established to coordinate the textile program . . .

M-388 (low-end apparel production order) will remain in effect for some time, according to WPB spokesmen. Judge Vinson, director of the Office of War Mobilization & Reconversion, has stated that the joint WPB-OPA (M-388 MAP) program should increase production enough to meet at least minimum demands. However, there is the possibility that investigations by Congress and even by special groups may result in scrapping the M-388 order along with MAP. Then the way would be open for special programs (M-328).

OPA's preference is not to make any over-all changes in its present pricing policy during the period between V-E and V-J Days. Whether or not this policy continues depends on what action Congress takes in extending the

Price Control Act. This price structure is considered of utmost importance in combating inflationary pressures.

INCENTIVE PRICE BOOSTS. That OPA is not adverse to incentive price boosts for certain basic fabrics producers is becoming apparent. This probably would mean a direct price increase on specific weaves in a few classes of goods. OPA officials indicate that such incentive pricing could be worked out to the advantage of producers now and with no ultimate penalty. OPA will continue to make price adjustments upward and downward in some cases, literally "robbing Peter to pay Paul."

INTER-AGENCY COMMITTEES. One of the most constructive moves in Washington to aid in increasing textile production is the recent formation of two inter-agency committees. The first, known as the Inter-Departmental Textile Task-Force Committee, consists of Kenneth W. Marriner, WPB, as chairman; Robert West, Esmond Mills and WPB (recently appointed textile assistant to J. A. Krug); Jerome N. Ney, OPA; S. Herbert Unterberger, WLB; E. R. Lerner, WMC; Col. George H. Baker, Selective Service System; Lt. John P. Howland, Navy; Col. John S. Cooke, Army; and Lt. Col. J. S. Schramm, Army. Any problems which this committee finds itself unable to resolve may be submitted to the so-called Inter-Agency Textile Committee, which consists of the heads of OES, WPB, OPA, WMC, WLB, and FEA.

It is hoped that this double-barreled inter-agency organization will do much to overcome industry criticism that too much time is spent in endeavoring to adjust difficulties with each agency separately.

Only Limited Tax Changes in Sight

Don't look for a general overhauling of tax structure until after the end of the war with Japan. Revisions now under consideration following V-E Day are definitely limited and point to the following changes:

1. Aid to small corporations by raising excess-profits tax from $10,000 to $25,000.
2. Aid to all corporations with excess-profits-tax refund bonds by making them cashable currently. Present proposals would reduce the gross tax by the amount of this refund. (Treasury has issued special non-interest bearing bonds as evidence of obligation to refund the taxpayer 10% of excess-profits tax after the war).
3. Corporations which pay an excess-profits tax would be allowed to use carry-backs currently. For example, a corporation could make an estimate of anticipated refunds under the carry-back provisions of the law which could be offset against current tax payments.

Whether or not there may be a more liberal depreciation allowance in 1945 is hard to say, but the chances are that this will not come until after V-J Day. A substantial cut in the corporate income tax can be expected after the Jap war. As for the individual income-tax rates, look for some cut after V-J Day and higher exemptions.

. . . Industry is chock full of new ideas ready for launching when controls are relaxed . . .

New Products and War-Fabric Uses

New products which are coming into the civilian field, slowly now but more rapidly as V-J Day nears, are based on new finishes, new fibers, and new machines. Plastic coatings and impregnations give better adapted materials for specific uses than ever before. They are water-repellent, fire-resistant, mildewproof, etc., as demanded. Shrink-resistant wool and pre-shrunk knit goods are on their way.

New fibers include two new synthetics for hosiery, a dissolvable yarn now used for mine-laying chutes, monofilament synthetics for many uses including substitutes for wire screening, improved rayons for tires, etc.

Nylon will be a new fiber in many fields, as its initial development was cut short by the war. England already is allotting small quantities of nylon for experimental purposes, while here the authorities are holding so tight a rein on the supply that a mere 25 lb. allocated for fabric development not long ago was withdrawn just recently, prior to delivery. The American industry feels that this is short-sighted control since a few lots of 25 lb. each for experimental use could scarcely hamper the war effort and might keep the industry in the front line of post-war competition.

New fabric constructions which are really innovations are rare, but developments such as the cushion-sole sock, marquisette netting, long-pile alpaca-mohair lining, etc., are worthy of mention. The new high-speed tricot machines may exert an influence on postwar fabrics.

Whatever military fabrics are released for civilian purposes will undoubtedly find their way into sports wear and into work clothing. Many Army fabrics, especially the cotton materials, are well suited for converting into work clothing without alteration of the color. In many instances the resulting work garment is of better wearing quality than the generally accepted former standards.

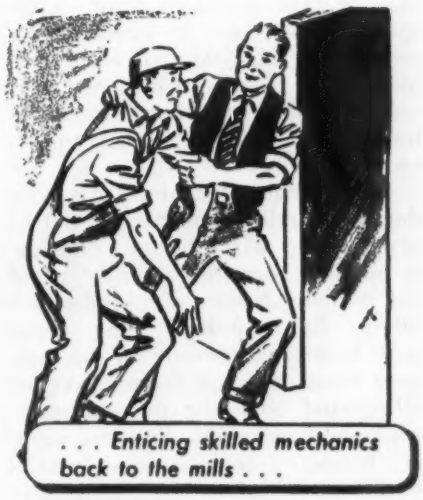
Economy in Financing Will Be Important

Financing postwar operations of textile mills may give factoring organizations and banks a new group of opportunities. Most mills will find themselves thoroughly liquid as their military business tapers off, unless entangled by termination procedure, and they will be in a position to select their financing agency or agencies with full freedom of action.

"If the expected postwar lull and recession in prices can be quickly offset by government contract adjustments and intelligent financing plans," points out J. C. Osborne, manager of the Factoring Division, Trust Co. of Georgia, Atlanta, Ga., "the recession should be quickly disposed of and business permitted to operate profitably; but if industry does not plan intelligently, we may have falling prices and all the unpleasantness of 1922 following the end of World War I in 1918. One of the important factors in the quick recovery in World War No. 1 was ample working capital and the freedom it permitted. Discuss your affairs with your banker. Let him work with you in establishing as free a cash position as possible. Let him know your long-term plans, your current requirements, your plans for economical operations, what your competitors are doing, how you propose to meet competition or best it. Economy of operation may be achieved by reducing demands made upon the administration end of the business and eliminating unnecessary detail. Factoring eliminates credit losses, handles collection detail, and increases a company's cash position by purchasing the accounts receivable daily."

TECHNICAL PROBLEMS of Reconversion Not Severe

HIGHLIGHTS: **Reconversion would be a minor problem mechanically, if machines and men were available. Equipment industry hard pressed to meet demand. Pile and jacquard looms present chief change-over difficulty. Mills will seize opportunities for improvement.**



. . . Enticing skilled mechanics back to the mills . . .

THERE ARE VERY FEW general formulas or rules which can be laid down to guide mills through the technical problems they will face in converting to new fabrics for the Pacific war or later in reconverting to civilian fabrics. This is for the simple reason that the nature of such problems varies fabric by fabric and mill by mill.

Carpet mills which have converted to duck will probably have the greatest mechanical difficulty in getting back to former lines, while heavy staple-goods cotton mills which stayed on practically the same fabrics they had always made will have the least difficulty. In between, fall a number of all-rayon mills which converted to cotton goods, light-weight cotton-goods and worsted-goods mills which converted to heavy-weight, cotton mills with dyehouses which converted to white goods, plush mills which converted to blankets, light-weight knit-goods mills which changed over to heavy underwear, and so on. The interesting thing is that the textile industry as a whole will be faced with a negligible mechanical reconversion problem and hence will find itself in a far better position than most of the munitions industries.

. . . There will be a scramble for new machinery . . .

EQUIPMENT NEEDED. The industry will, however, find itself at a distinct disadvantage as compared with many other industries on one important point. This is with respect to the condition of its equipment, very little of which has been replaced during the war. Although the War Production Board is now aware of the critical situation in textiles and has done much to clear the way for the production of mill equipment, the accumulated demand is so high that the equipment industry will require years to meet it satisfactorily.

A survey by TEXTILE WORLD, reported in the November, 1944, issue, disclosed that the mills are planning to spend over $640,000,000 for major plant and equipment improvements in the early postwar era. Cotton mills want to buy not only huge quantities of production machinery, but also humidification, fluorescent lighting, and power-plant equipment, not to mention ten million dollars' worth of the equipment for such employee-welfare projects as housing, cafeterias, and lavatories. Continuous-filament-synthetics mills are particularly interested in air-conditioning and in expansion and modification of their production machinery. Woolen and worsted mills want many automatic looms, improved power plants, and equipment for their machine shops. Finishing plants are asking for continuous bleaching and dyeing machinery and for more efficient dryers. Hosiery mills want fine-gaged full-fashioned and 400-needle circular machines. Outerwear and underwear mills are seeking warp-knitting machines. And so it goes, through countless items for all branches of the industry.

Another TEXTILE WORLD survey published in February, 1945 (page 106), disclosed that the flow of equipment to the mills is accelerating, but nevertheless time will probably show that delivery delays have added up to a major postwar headache.

SKILLED MECHANICS. While much of the current need for machines and parts is the result of the long, continuous hours of operation, part of the blame can be laid to the shortage of skilled mechanics and the consequently inferior maintenance job that has been done.

This brings us to another production problem which may prove severe in the next year or two, at least for the duration of the Pacific war—the problem of enticing skilled mechanics back to the mills. Many of these men have been enjoying unusually high wages in other types of industries—aircraft and shipbuilding, for example. What can be done to make textile-

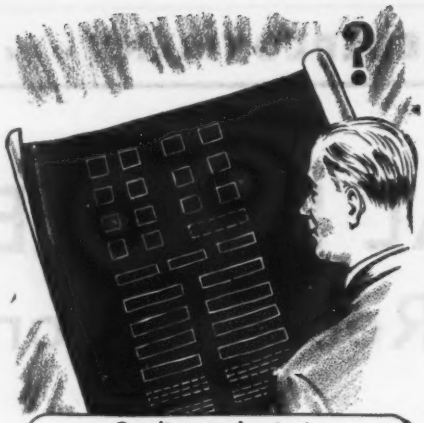
mill work attractive to them again? Perhaps nothing, except to point out the fact that during the Japanese war and the postwar era textiles will prove to be one of the consistently busiest of the great industries, badly needing workers and offering long-term security of jobs.

COTTON YARN. Now let's look specifically at cotton-yarn manufacture, as an example. Conversion to war has generally resulted in heavier yarns—although there are isolated cases of the reverse. Carding and spinning are thus out of balance with weaving, and industry-wide shortages have developed. In attempts to increase yarn production, ring-holder sizes on spinning frames have been increased, and ring rails have been bored for larger holders in order to obtain larger packages.

Much obsolete machinery has been dug out of mill basements and put to work in the war program. One example has been the resurrection of old spinning frames as rewinders for filling. By rewinding filling, many mills have eased pressure on the spinning room, since all frames freed of filling-wind could be put on warp-wind and larger rings. Spoolers, warpers, beamers (for duck), and twisters have been added to effect conversion to war products.

These changes mean that mills will be in the market for automatic winding, modern spooling and warping, and new spinning. With these additions, mills which before the war produced constructions in the print-cloth range will be able to reconvert to standard manufacture or to heavier industrial-type fabrics. Secondly, with blending feeders, improved carding, and flexible long-draft in roving and spinning, they will also be able to meet demands for synthetic blends.

LOOM RECONVERSION. Let's look specifically also at the cotton weave room. Here an equally difficult job has been done for war conversion. When changed to heavier fabrics, all looms had to be reset and retimed. Converting to duck, some mills installed heavier drag rolls and changed stop-motions and take-ups. E-Model looms were braced with spreaders and other strengthening devices. The very fact that mills are now weaving vital 12.29-oz. tent twill on looms that formerly wove ginghams is definite evidence of what has happened in the average weave room. A heavier load is being carried by the loom; and with a shortage of expert fixers, weave-room overseers have been forced to assign overhaulers to fixer sets.



. . . Carding and spinning are out of balance . . .

Denim looms converted to duck have presented a problem to some mills. While the looms have handled the duck fabrics, the conversion threw yarn-manufacturing and yarn-dyeing equipment completely out of balance. When this fabric change is reversed—which is expected in the near future—additional operators must be found to step up dyeing production.

War experience with heavier fabrics may prove useful in loom reconversion to industrial fabrics. Mills which have the Draper X and Crompton & Knowles C series of looms are in a fortunate position. Other mills are interested in reconverting their looms to lighter fabrics and are viewing the synthetic blends with considerable interest.

One of the most concentrated headaches in reconversion will be that of upholstery and tapestry weavers. The conversion of their looms to duck and other heavy fabrics cost more than $300 per loom. While the total of looms involved is not great, the cost of reconversion on a loom basis will be high. Many of these mills hung their jacquards and harness to the ceiling and stripped the looms of piling mechanism, in order to change to plain fabrics. The idleness of such intricate devices will impair their effectiveness when once again they are freed for production.

. . . Ring-holder sizes on spinning frames have been increased . . .

Fancy weavers generally will have a relatively tough reconversion job. One factor is the question of yarn supply, in event their looms are prematurely freed for normal production. Some of these mills are not vertically integrated. They do not own or operate yarn-manufacturing facilities; and if their production is freed without corresponding freedom of normal yarn suppliers, their problem will be intensified. In this direction, one large manufacturer has already taken steps toward vertical integration; and this may be an indication of future trend.

Intensive research, experimentation, and industrial engineering are already under way in many plants, as well as in purely research organizations. They promise to be assets in reconversion, for they are directed toward improved methods, better testing control, reduced costs, and superior quality. Revolutionary methods for picking and handling raw cotton are opening new horizons to the cotton industry.

FUTURE BLENDS. Further inter-blending within the synthetic fibers, and in combination with natural fibers, promises striking effects for the designers. Observers predict development of more interchangeable systems of blending in the early future. In view of the quantity of synthetic and natural fibers available, such a development will offer the designer and chemist an almost inexhaustible source of new fabrics.

Since cotton requires cleaning, while synthetic fiber does not, most blending of the two is now done at drawing. As multiple fibers complicate the opening, picking, and carding processes, there are practical limits to the number of fibers in a blend.

Therefore, to take advantage of the large variety of blends possible, mill men believe that specialized blending may be one of the early developments of the post-war era. This is already true in the large vertically integrated companies. The expected development however is in the field of sales yarn, such as in the combed-yarn industry, or in the field of sales-drawing made by mills specialized in multiple-fiber processing. There are other definite indications of further shifts from single fiber to blends, such as the increasing interest in roller-top cards, new drawing frames, and Shaw spinning.

Government Takes Steps to Augment MANPOWER

HIGHLIGHTS: **WPB wants 1942-43 production levels to return. Puts textile plants in "Band 3" on manpower urgency. Released service men will be directed toward textiles. Training plans will aid veterans. Disabled veterans to be given special consideration.**

By GLADYS MONTGOMERY
Washington Editor, TEXTILE WORLD

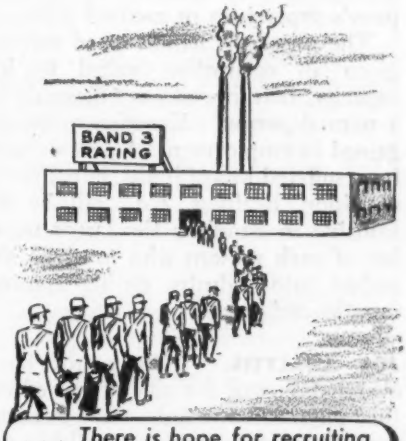
WASHINGTON OFFICIALS are in accord that remedial measures must be adopted at once to halt the drop in textile production. An increase of at least 18% in output of wool and cotton fabrics and about 7% in synthetic textiles, which would bring production back to 1942-43 levels, is the goal of the new program set up by J. A. Krug, chairman of the War Production Board. It has been said authoritatively that the one-front war will consume more textiles than the two-front war.

As is already apparent, one of the chief bottlenecks in the push for greater yardage is manpower. In an effort to get back the estimated 100,000 workers which were lost to other war industries, War Manpower Commission has placed the major sections of the textile industry in the third production-urgency manpower band—the same band as tanks, aircraft, and bombs. This "Band 3" rating is considered an important step in directing workers to textile mills as cutbacks occur in other war-production plants.

However, it is doubtful whether the mills will notice much improvement in the labor shortage before the fall, and then it will be a gradual process, due in part to the lower wages the industry pays in comparison with many other war industries. The tendency will be for workers to shop around somewhat before taking a job that pays less.

MORE WORKERS WILL BE AVAILABLE. Much, of course, will depend on the number of people who are actually out of jobs. Government estimates are as follows: Munitions plants are expected to lay off 2.6 million workers during the next year. About 2.0 million from the armed forces will be demobilized during the same period. Reemployment in civilian jobs will take care of 3.0 million, leaving 2.5 million unemployed at the end of 12 months as against 1.0 million today. (CIO spokesmen place the figure much higher). Many of those out of jobs will be women who will not want to take new work. Also, areas where war production is stepped up, such as certain textile areas, will continue to face labor shortages for a while and will need whatever help WMC is able to give.

Efforts are now under way to secure from the Army the temporary release of experienced textile workers, but as yet no assurance has been given that the Army will accede to this request. Indeed, the Army is beginning to take back some of the soldiers it has already lent to industry. In the recent duck program and also the tire-cord program, furloughs were granted to relieve critical bottlenecks. A move is under way to have draft boards grant more deferments to certain experienced textile workers.



. . . There is hope for recruiting more textile workers . . .

. . . To which plant will he return? . . .

Training and Placement of Returned Service Men

The Veteran's Administration is the government agency primarily concerned with the training and education of the war veteran. Under Public Law No. 16, this agency must take care of all veterans (of not less than 90 days' service) who have incurred service-connected disabilities sufficient in degree to be pensionable and of a kind that can be remedied by training. The veteran is entitled to four years' training at government expense. Training facilities consist of accredited colleges, universities, and technical schools, as well as training-on-the-job.

The G. I. Bill of Rights (Public Law No. 346) is also administered by the VA. It provides for education or training (or both) of any veteran whose education was interrupted or interfered with because of his entry

into military service. The course of study must be started not later than two years after the date of discharge or termination of the present war, whichever is later. While taking this course of study, the single veteran gets an allowance of $50 a month. A veteran who is married or who has a dependent parent gets $75 a month. The institution gets an allowance of not more than $500 for each veteran.

BASIC LEGISLATION. Several changes in the basic legislation will be strongly advocated. One is an increase in the subsistence allowance for students and trainees. Another is the addition of a plan for making direct loans to veterans, unless it is clearly demonstrated that the present system of partial government guarantee is

. . . The veteran is entitled to four years' training . . .

wholly effective. Other changes, such as the adjusted compensation bill (bonus), will get considerable attention.

The War Manpower Commission has the job-placement responsibility. This is made operative through WMC's Veterans' Employment Service, which has a representative in each state and which in turn reaches into the communities through the 1,500 local offices of the U. S. Employment Service. This service is already well known to mill owners, as are such WMC special services as training programs, aptitude tests for applicants, labor-market information, etc.

Selective Service cooperates closely with VES. Under the Selective Service & Training Act of 1940, as amended, the Selective Service System is responsible for requiring employers to rehire persons called into the armed forces. Upon request, a veteran who is still qualified to hold his old job must be rehired if he applies within 90 days (originally 40 days) after leaving the service (except in case of a temporary position). It stipulates that he shall be rehired without loss of seniority, insurance, or other benefits, unless the employer's position has changed so that it is impractical.

Federal Security Agency (Office of Vocational Rehabilitation) provides vocational training for veterans with non-service-connected disabilities. The work is carried on through State Vocational Rehabilitation Agencies.

Office of War Mobilization (Retraining & Reemployment Administration) coordinates the activities of all government agencies having to do with retraining and reemployment of persons discharged or released from the Armed Services. It is chiefly a policy board.

Special Attention for Disabled Veterans

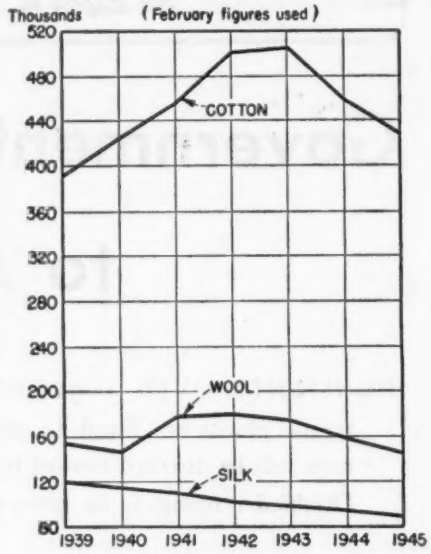
Disabled veterans are all entitled to reemployment as long as they can handle their old jobs, or some other jobs with the company, reasonably well. "Disabled" is accepted as including neurotic or psychiatric cases as well as physical impairment. The fact that the man has been returned to civilian life is evidence that Army physicians believe him capable of sound readjustment. However, many cases require experience outside the normal background of the usual mill foreman, and services of some specialist in mental hygiene will be helpful in instructing the foremen in recognizing danger signals and in avoiding any course of action which might retard the veteran's readjustment.

Undoubtedly the released veteran's initial need will be steady employment and security. The readjustment from war to peaceful civilian pursuits is perhaps the most drastic a man may experience; and his possible restlessness, impatience, or even insubordination must be handled skillfully by the company's supervisors or medical advisors.

The physically handicapped worker, given an occupation suited to his capacity, may operate as efficiently as a normal person. Experience already gained in employment of persons who have suffered loss of limbs, impairment of vision, deafness, etc., will be invaluable in handling the larger number of such persons who must be absorbed into industry during coming months and years.

JOB ANALYSIS. Many mills have already prepared job analyses based on the physical demands and working conditions of the various available occupations in the plant. The company

Employment in Three Important Branches of Textile Industry



The index for cotton includes establishments primarily engaged in the weaving of fabrics over 12 in. in width, wholly of cotton or with the warp predominantly of cotton yarn, including fabrics woven of either finished or unfinished cotton yarn; also spinning, twisting, and manufacturing of cotton sewing thread or crochet, darning, hand knitting, and embroidery cottons for sale as such.

physician or equivalent officer should check the disabled man's ability against this chart to recommend specific jobs. Such demands as the following should be included on the job-analysis chart: walking, standing, sitting, stooping, lifting, pulling, pushing, using one foot, using two feet, using one hand, using two hands, using fingers, seeing, talking, hearing, etc. Working conditions for each job should also be noted as to whether outside or inside, hot or cold, wet or dry, dusty, noisy, fumey, etc.

Depending on state laws or insurance-company practice, it may be necessary to make some change in reference to compensation insurance when disabled veterans are employed. The individual employer should check as to his local situation on this point.

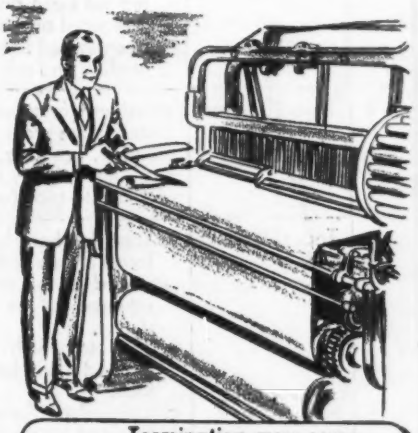
". . . The most drastic readjustment a man may experience . . ."

TERMINATION ROUTINE on War Contracts

HIGHLIGHTS: **Contractors through interim financing may obtain interest-free loans to pay subcontractors. Work-stoppage plan covering woolen and worsted mills states at what process work should be stopped at time of termination notice; like plans being formulated for the cotton branch of industry.**

THE "BIBLE" FOR CONTRACT SETTLEMENT, the Joint Army-Navy Termination Regulation, has from time to time been revised and brought up to date so as to offer a feasible working basis for contract settlement for all contracts held by textile mills. Recent changes over those presented in the October, 1944, issue of TEXTILE WORLD are as outlined below.

INTERIM FINANCING. War contractors having the necessary qualifications may obtain directly from the government a loan without interest from which partial and final payments may be made to subcontractors. This applies to those mills having contracts with the War Department and with the Navy Department.



. . . Termination may come suddenly . . .

In the Navy, certain material inspectors in the field have been authorized to approve partial payments not exceeding $25,000, obviating the necessity of obtaining approval of the contracting officer in Washington.

War contractors may use funds in advance-payment accounts to make partial and final payments to subcontractors under the conditions given in the revised regulation.

WORK STOPPAGE. For those mills that have not already entered into a pretermination contract with the Quartermaster, a standard "stop-work order" has been developed for the woolen and worsted industry, and a similar one for the cotton industry.

Stop-work stages for cotton mills are given in Fig. 1, whereas Fig. 2 shows a schedule designed to cover the operations of a fully integrated woolen or worsted mill. However, where a prime contractor is not fully integrated and his subcontractors perform some of the operations for him, the subcontractor will be governed by the applicable stop-work stages in so far as his operations are concerned. The prime contractor is required, by

Stop-Work Stages for Clearing Machinery Cotton-Textile Manufacturing Industry

Stage No.	Stop-Work Stages	Instructions
1	Raw Cotton	No bales may be opened after receipt of termination notice. All unopened bales must be checked and accounted for.
2	Opened Cotton	a. All open stock and work in process prior to roving shall be completed into roving, except where the roving to be processed is of a special character not suitable to production on the contractor's own account, such roving may be spun into single yarn, by specific direction of the contracting officer. b. Single yarn, not on twister frames, warpers, or beamers—hold on most convenient packages, weigh and account for. c. Twisting operations be continued only to the next doff, and single yarn remaining on the twister creels shall be taken off and packaged.
3	Yarn on Beams, Warpers, and Slashers	a. Yarn in the process of warping onto section beams shall be continued only to the extent necessary to complete the particular section beams then in process, and the yarn on these section beams shall be packaged. The yarn remaining on the creels shall be taken off and packaged. b. Section beams in the process of slashing shall be continued through the slasher only to the extent necessary to complete the loom beams then being beamed, and the remaining section beams shall be taken off the slasher and the yarn packaged. c. Yarn on loom beams not actually on the loom shall be packaged.
4	Yarn on Section Beams and Beyond	Only those loom beams actually on the looms shall be woven into cloth.
5	Finishing and Dyeing	Pieces in process of being sewn together or which have been sewn together but which have not entered the first finishing process shall be cut apart and measured.
6	Cloth in Finishing	Allows all normal finishes, like sanforizing, to be applied after dyeing.

Fig. 1. Stop-work points for cotton mills, as recently issued by the Philadelphia and Jeffersonville Quartermaster Depots, subject to later revisions.

the QM instructions, to furnish copies of the stop-work stages and to notify all of his subcontractors that they will be bound by all stage instructions.

Application of the stop-work stages for clearing machinery, as covered in Fig. 2, is outlined in the following instructions:

(*Continued on page 149*)

Stop-Work Stages for Clearing Machinery—Worsted and Woolen Manufacturing Industries

WORSTED SYSTEM (Bradford & French)			WOOLEN SYSTEM		
Stage No.	Stop-Work Stages	Instructions	Stage No.	Stop-Work Stages	Instructions
1	Raw Material	a. Unopened bales not to be opened. b. Open bales on which no grading or sorting has been done to be rebaled. c. Raw wool on which grading or sorting has been started to be completely sorted and graded, and rebaled and weighed.	1	Raw Material	a. Unopened bales not to be opened. b. Open bales on which no grading or sorting has been done to be rebaled. c. Raw wool on which grading or sorting has been started to be completely sorted and graded, and rebaled and weighed.
2	Tops (Undyed)	Wool and/or other fibers that actually have started in the process of top making (dusting, scouring, carding, backwashing, gilling, combing, gilling, finishing) shall be completed into tops (undyed).	2	Stock in Preparatory Processes	Wool and/or other fibers that actually have started in the preparatory processes such as scouring, carbonizing, and neutralizing, shall be completed.
3	Tops (Dyed)	a. Tops that have been wound on spools or forms or inserted on spindles but not yet started in the process of dyeing will be returned to the original undyed "top" state. b. Tops to which dye has actually been applied shall be completed into dyed tops. c. Colored and/or undyed tops shall not be blended for shade.	3	Picked Stock	Rags and/or other stock in the process of being garnetted or picked shall be completed into garnetted or picked stock.
			4	Wool, Dyed	Wool and/or other stock to which dye has actually been applied shall be dyed and dried. Wool and/or other stock to which dye has not been applied shall be packed and weighed.
4	Recombed Tops (Undyed and dyed)	Tops that actually have started in the process of being recombed shall be completed into recombed tops.	5	Blending and Emulsifying	No further wool will be blended and oiled; wool actually being blended and oiled will be completed.
5	Yarn	Tops (undyed or dyed) that actually have started in the process of being made into yarn, shall be completed into single ply. The machinery and bobbins may be cleared by winding the yarn onto tubes, cones, or into skeins.	6	Yarn	Wool that actually has started in the process of being made into yarn, shall be completed into single ply. The machinery and bobbins may be cleared by winding the yarn onto tubes, cones, or into skeins.
6	Yarn (Plied)	Yarn that actually has started in the process of being doubled or twisted shall be completed into plied yarn. The machinery and bobbins may be cleared by winding the yarn onto tubes, cones, or into skeins.	7	Yarn (Plied)	Yarn that actually has started in the process of being doubled or twisted shall be completed into piled yarn. The machinery and bobbins may be cleared by winding the yarn onto tubes, cones, or into skeins.
7	Warp Yarns in Preparation for Weaving	Work on yarn that actually has started in the preparation for weaving shall be stopped at the following stages: a. Jack spools or dresser spools that have been started, may be completely wound. b. Warper beams that have been started, may be completely wound. c. Loom beams in the process of being slashed or dressed, may be completely slashed or dressed.	8	Warp Yarns in Preparation for Weaving	Work on yarn that actually has started in the preparation of weaving shall be stopped at the following stages: a. Jack spools or dresser spools that have been started, may be completely wound. b. Warper beams that have been started, may be completely wound. c. Loom beams in the process of being slashed or dressed, may be completely slashed or dressed.
8	Cloth (Unfinished)	Loom beams, on looms, actually in the process of weaving may continue in process until the warp is woven out and the loom is cleared.	9	Cloth (Unfinished)	Loom beams, on looms, actually in the process of weaving may continue in process until the warp is woven out and the loom is cleared.
9	Cloth (Burled and mended)	A piece of cloth that actually has started in the process of burling and mending shall continue in process until the piece has been completely mended.	10	Cloth (Burled and mended)	A piece of cloth that actually has started in the process of burling and mending shall continue in process until the piece has been completely mended.
10	Cloth (Finished)	Cloth that actually has started in the first process of finishing, after burling and mending, shall be completed into finished cloth except that work on cloth that is to be piece dyed shall be stopped at the completion of the operation immediately preceding dyeing and the cloth shall be dried. Cloth that actually has entered the dye kettle in the process of piece dyeing, shall be dyed and completed into finished cloth.	11	Cloth (Finished)	Cloth that actually has started in the first process of finishing, after burling and mending, shall be completed into finished cloth, except that work on cloth that is to be piece dyed shall be stopped at the completion of the operation immediately proceeding dyeing and the cloth shall be dried. Cloth that actually has entered the dye kettle in the process of piece dyeing, shall be dyed and completed into finished cloth.

Fig. 2. Schedule A, work-stoppage stages for clearing machinery in woolen and worsted industries issued by Office of Quartermaster General

FIBER REGAIN
Data Simplified

HIGHLIGHTS: Moisture vapor given in terms of relative and absolute humidity. Charts show relative humidity, wet and dry bulb temperatures, fiber regain, adsorption and desorption. Equilibrium figures suggest best conditions for yarn storage.

By C. H. REUMANN, M.E.

TO UNDERSTAND something about the regain of moisture in textile fibers it is necessary to know the basic facts about the moisture contained in the air under various conditions of temperature and pressure. To simplify the problem, we will confine ourselves to a definite pressure, corresponding to 29.92 in. of mercury.

At any given temperature, the air can contain a definite amount of moisture vapor usually expressed in grains per cubic foot. When the air has absorbed all of the moisture that it is capable of absorbing at a given temperature, it is said to be saturated and the relative humidity is expressed as 100%. Relative humidity is the percentage of moisture contained in the air, compared to what it can hold at saturation. Absolute humidity is the actual quantity of moisture contained in the air.

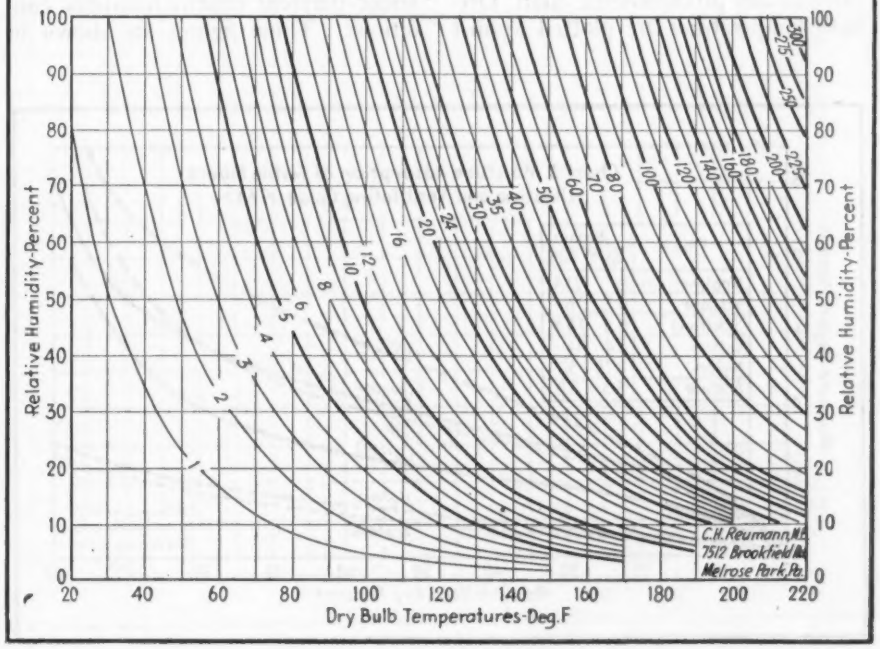
The ability of air to hold moisture varies greatly with a change in temperature. For example, the maximum amount that air can contain at 50° F. is 4.11 gr. per cu. ft. At 100° F. the maximum amount is 20 gr.; at 150° F., 72.1 gr.; at 200° F., 208 gr. This explains why it is easier to dry textiles or other materials at elevated temperatures than at room temperatures.

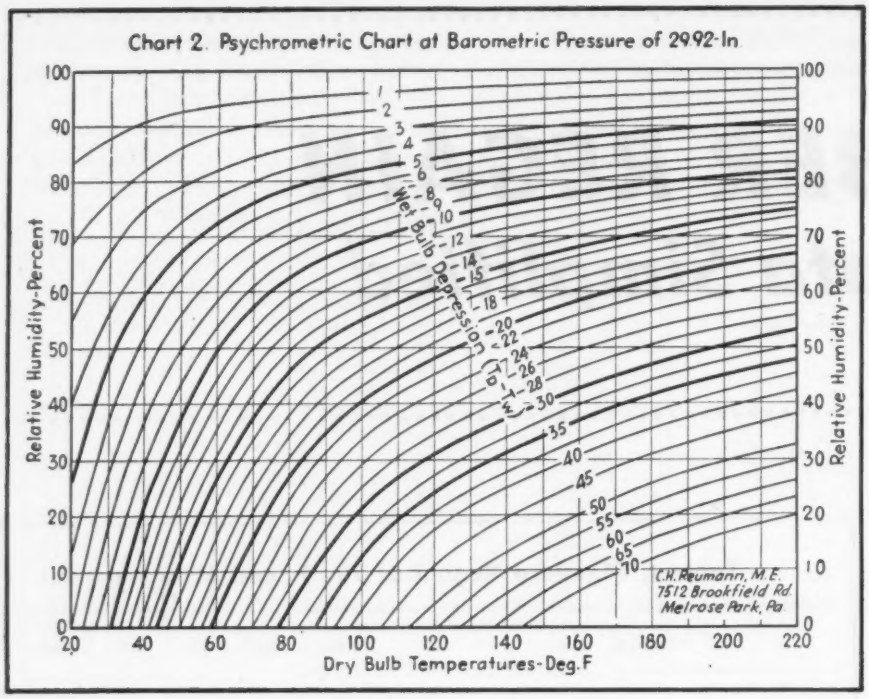
In cooling air from a given temperature to a lower temperature, nothing

Table I, Standard Regain at 70° F. and 65% r.h.

Material	Recommended by	Regain
Raw cotton	A.S.T.M. D-13	7.0%
Cotton yarn	A.S.T.M. D-13	7.5%
Mercerized yarn	Nat. Bur. of Standards (Div. of Trade Standards)	8.5%
Cotton cloth (dyed or undyed)	U. S. Testing Co.	6.5%
Hard scoured wool	A.S.T.M. D-13	13.6%
Bradford spun worsted yarn	Nat. Assn. of Wool Mfrs.	13.0%
French spun worsted yarn	Nat. Assn. of Wool Mfrs.	15.0%
Worsted yarn containing silk, and/or rayon, and/or cotton—in proportion to mix; allow 11% for rayon and silk and 7% for cotton		
Silk	U. S. Standard	11.0%
Regenerated cellulose rayon	A.S.T.M. D-13	11.0%
Acetate	A.S.T.M. D-13	6.5%

Chart I. Moisture Graph-Grains per Cubic Foot





happens to the moisture vapor present until the temperature reaches a point that corresponds to the saturation point for the moisture contained therein. This is called the dew point or saturation temperature. If cooled beyond that point the moisture will actually condense out of the air.

Chart 1 is a graph of air temperatures from 20° to 220° F. plotted against relative humidities. This chart shows the absolute humidity or grains per cubic foot of air under different conditions of temperature and humidity. This chart can be used to determine dew point and also has many uses in conditioning problems.

Chart 2 is somewhat different from the ordinary psychrometric chart. Dry-bulb temperatures are plotted against relative humidity. Lines of constant wet-bulb depression (difference between dry-bulb and wet-bulb temperatures) are indicated.

REGAIN DEFINED. Regain moisture is the percent of moisture in the fiber compared to the bone-dry weight. This varies for different temperatures and relative humidities. Various standards of regain have been set up for different fibers at the standard condition of 70° F. and 65% r.h. The most commonly accepted are shown in Table I.

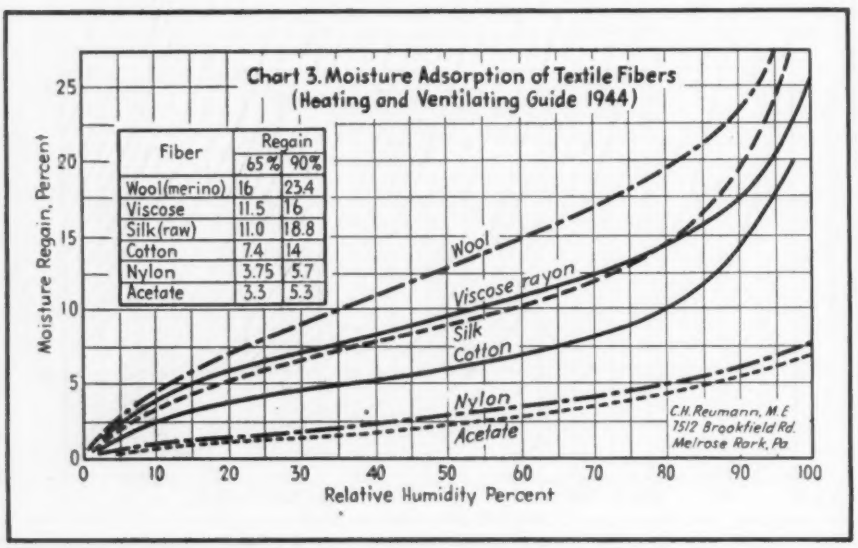
The 1944 issue of *Heating & Ventilating Guide* gives a tabulation of moisture regain for various fibers under different relative-humidity conditions. These figures are shown in graphic form on Chart 3. They agree in the main with the above standard figures, except in the case of acetate for which they indicate lower values. In the range of from 20 to 80% relative humidity these curves are practically straight lines.

The accompanying equilibrium charts for various fibers extend the equilibrium or regain data to cover a range somewhat greater than previously available. The curves may be plotted for temperatures up to 212° F. Fortunately most regain work is carried out within a range of 40 to 75% r.h. For this reason no error of consequence is introduced by considering the percentage curves as straight lines.

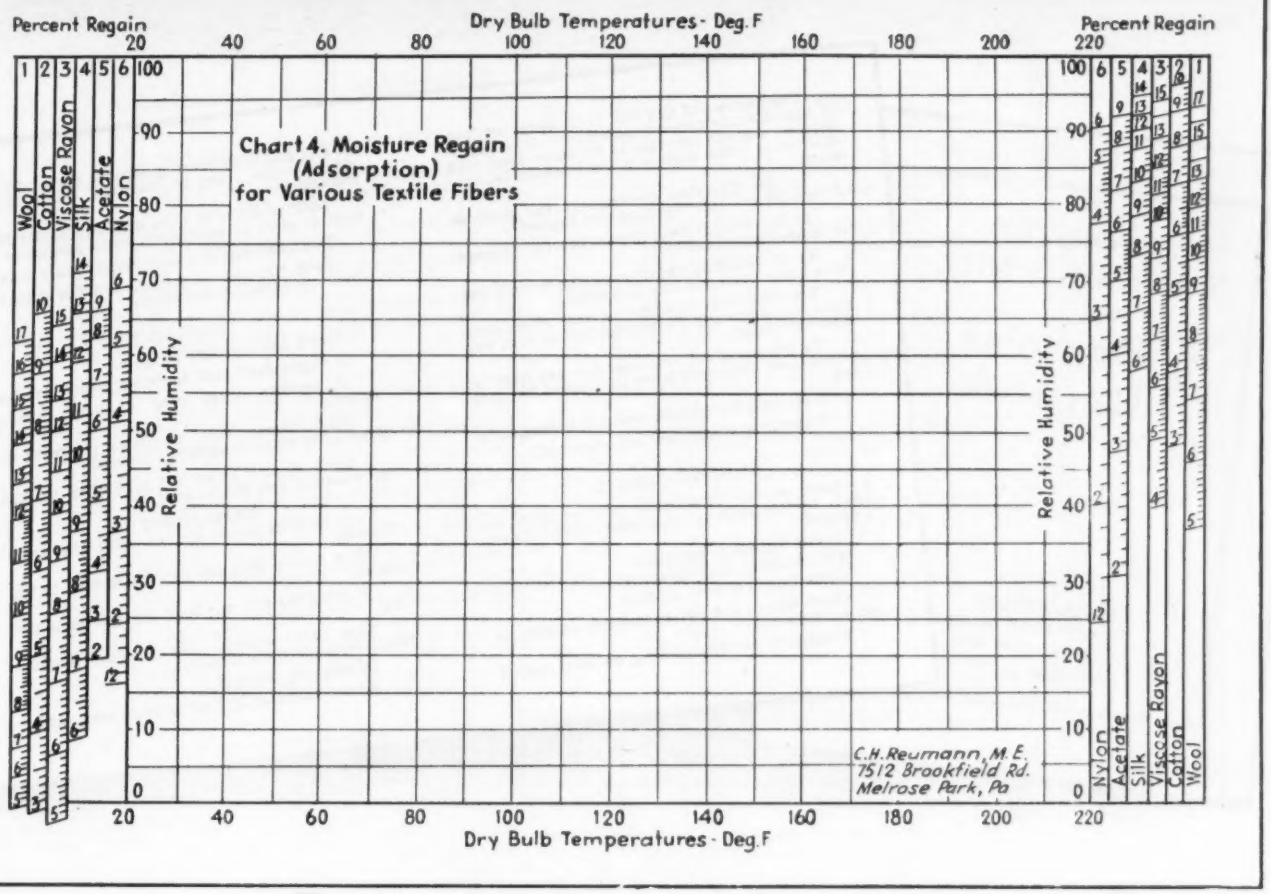
EQUILIBRIUM VARIES. Tests have shown that with a given fiber and with certain temperature and relative humidity conditions, the fiber will finally attain definite regain conditions. This is called the equilibrium condition of moisture. This equilibrium point varies with different temperature and humidity conditions. The equilibrium condition for a given temperature and humidity also varies according to whether equilibrium is approached from the wet state or from the dry state. When approaching from the wet state as in the drying process, the process is desorption or water removal. When approaching equilibrium from the dry state, the process is adsorption or addition of moisture.

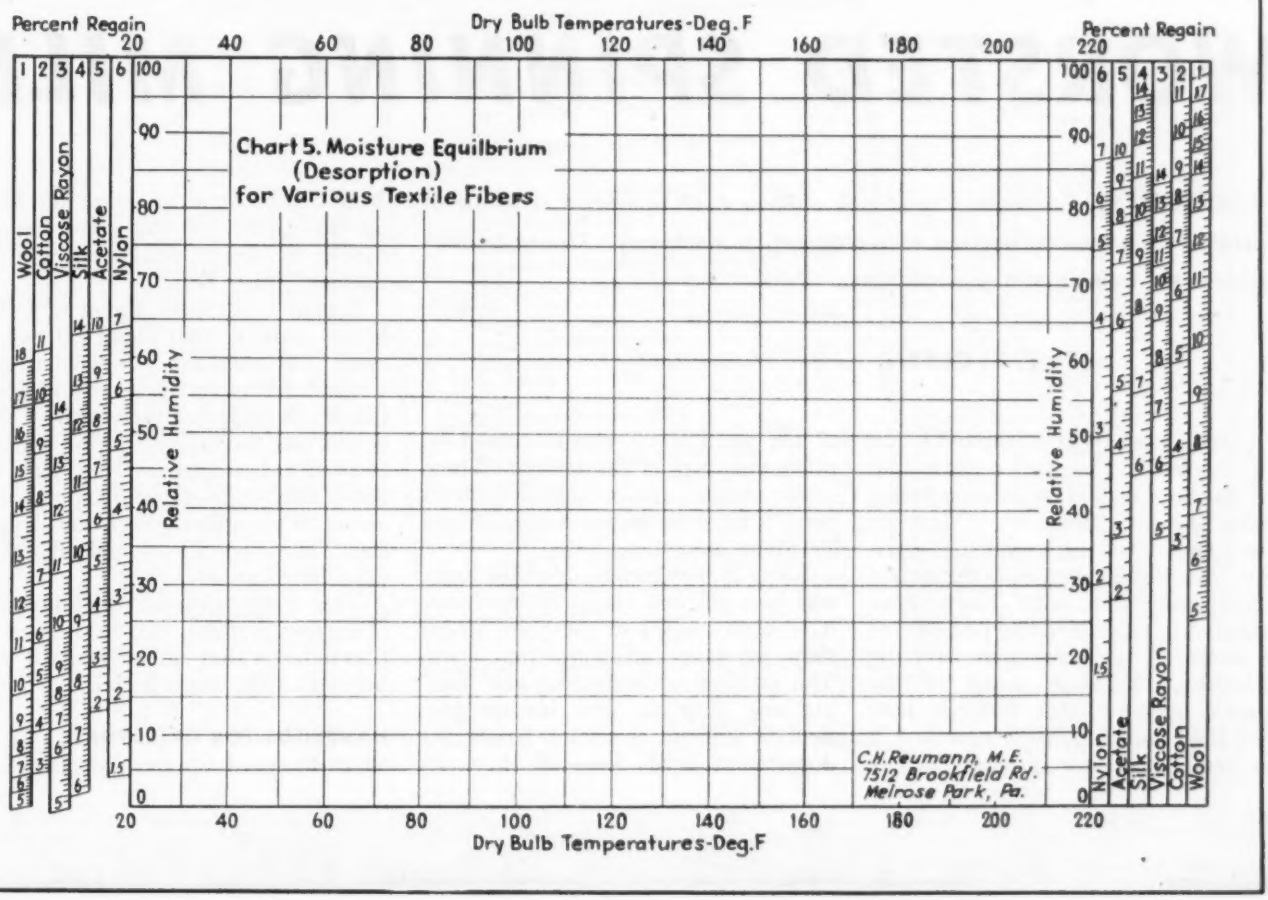
A complete set of curves for each fiber can be produced by joining with a straight line the proper values for the fiber under consideration on each side of the charts given. The regain for any temperature can be found from the point of intersection with the temperature. Chart 4 gives adsorption conditions, and Chart 5 gives desorption. The fibers covered are wool, viscose rayon, silk, cotton, acetate and nylon. In general it is necessary to maintain higher relative humidities to bring a fiber up to a definite regain from the dry state than is the case when approaching equilibrium from the wet state.

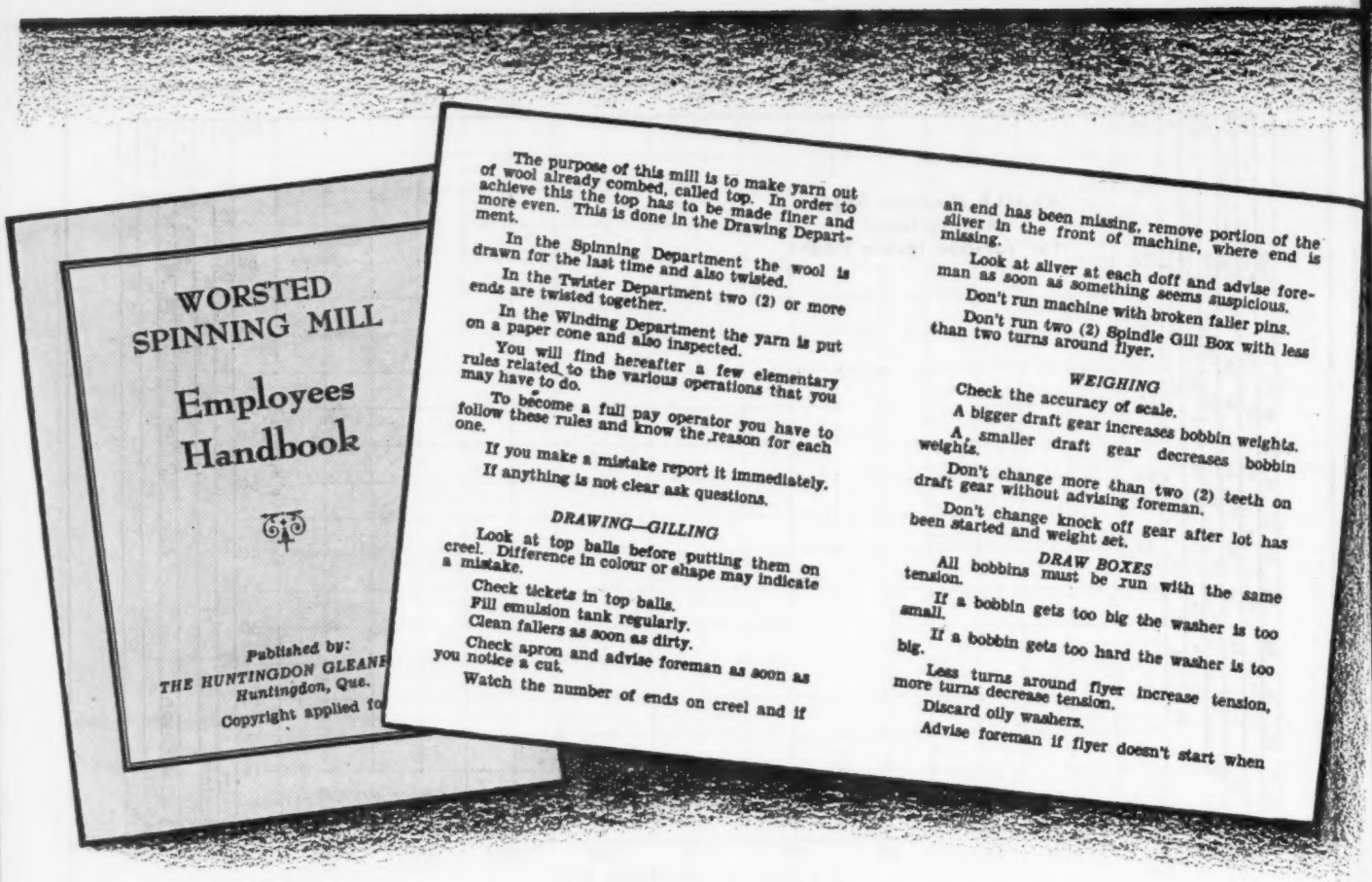
Comparison of the two curves will indicate desirable conditions of temperature and humidity for storage of conditioned yarns. If the conditions selected are midway between the adsorption and desorption curves for the standard percent of regain, there should not be much tendency for the yarn to give off or absorb moisture. By the same token, in drying any fiber, the charts can be used as a guide in selecting temperature and humidity properly to control shrinkage and quality. Conditions can also be selected to prevent drying below a predetermined moisture content.



Fiber	Regain 65%	Regain 90%
Wool(merino)	16	23.4
Viscose	11.5	16
Silk(raw)	11.0	18.8
Cotton	7.4	14
Nylon	3.75	5.7
Acetate	3.3	5.3


Percent Regain
Dry Bulb Temperatures - Deg. F
Percent Regain
Chart 4. Moisture Regain
(Adsorption)
for Various Textile Fibers
Relative Humidity
Relative Humidity
Wool
Cotton
Viscose Rayon
Silk
Acetate
Nylon
C.H. Reumann, M.E.
7512 Brookfield Rd.
Melrose Park, Pa
Dry Bulb Temperatures - Deg. F


Percent Regain
Dry Bulb Temperatures-Deg. F
Percent Regain
Chart 5. Moisture Equilbrium
(Desorption)
for Various Textile Fibers
Relative Humidity
Relative Humidity
Wool
Cotton
Viscose Rayon
Silk
Acetate
Nylon
C.H. Reumann, M.E.
7512 Brookfield Rd.
Melrose Park, Pa.
Dry Bulb Temperatures-Deg. F


WORSTED
SPINNING MILL
Employees
Handbook
Published by:
THE HUNTINGDON GLEANE
Huntingdon, Que.
Copyright applied fo
The purpose of this mill is to make yarn out of wool already combed, called top. In order to achieve this the top has to be made finer and more even. This is done in the Drawing Department.
In the Spinning Department the wool is drawn for the last time and also twisted.
In the Twister Department two (2) or more ends are twisted together.
In the Winding Department the yarn is put on a paper cone and also inspected.
You will find hereafter a few elementary rules related to the various operations that you may have to do.
To become a full pay operator you have to follow these rules and know the reason for each one.
If you make a mistake report it immediately.
If anything is not clear ask questions.
DRAWING—GILLING
Look at top balls before putting them on creel. Difference in colour or shape may indicate a mistake.
Check tickets in top balls.
Fill emulsion tank regularly.
Clean fallers as soon as dirty.
Check apron and advise foreman as soon as you notice a cut.
Watch the number of ends on creel and if an end has been missing, remove portion of the sliver in the front of machine, where end is missing.
Look at sliver at each doff and advise foreman as soon as something seems suspicious.
Don't run machine with broken faller pins.
Don't run two (2) Spindle Gill Box with less than two turns around flyer.
WEIGHING
Check the accuracy of scale.
A bigger draft gear increases bobbin weights.
A smaller draft gear decreases bobbin weights.
Don't change more than two (2) teeth on draft gear without advising foreman.
Don't change knock off gear after lot has been started and weight set.
DRAW BOXES
All bobbins must be run with the same tension.
If a bobbin gets too big the washer is too small.
If a bobbin gets too hard the washer is too big.
Less turns around flyer increase tension, more turns decrease tension.
Discard oily washers.
Advise foreman if flyer doesn't start when

Operator Instruction Covers WORSTED SPINNING MILL

HIGHLIGHTS: Employee's handbook outlines each operation required of operator while tending worsted yarn preparation machinery. Use of booklet assists in the training of new employees.

By F. E. CLEYN, *President, Spinners Limited*

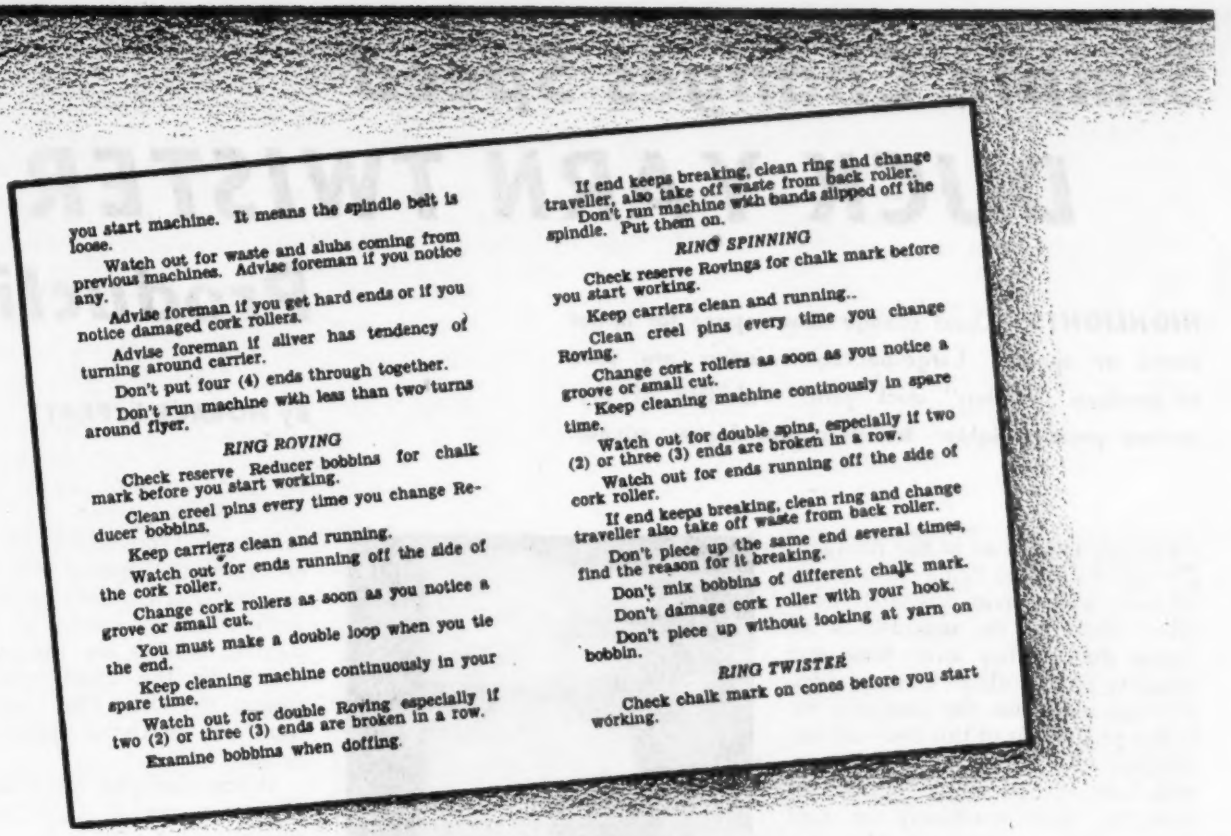
RAPID EMPLOYEE TURNOVER in woolen and worsted mills is adding to the difficulty of manufacturing under present conditions. Many of the younger and more efficient operators have been taken into the armed forces and those not taken have migrated to more lucrative jobs offered by many of the heavy manufacturing industries. Likewise, many of the women operators that formerly handled their work efficiently now find it no longer necessary to work because of the swollen pay checks earned by other members of the family. Then, some of the women operators have been enticed by higher wages offered by other industries.

Labor available today is of the lower and least efficient class. When some have been trained to the point where they are fairly efficient, they leave. The problem of instructing and training new help has now become particularly difficult as section hands and department heads have all they can do to handle their own work and keep up the quality of the yarn without having to devote additional time to training "green help."

Recent U. S. Department of Labor figures indicate that about 50 out of every 100 employees in woolen and worsted mills sever their relations with the textile industry every year. This means that the mills are losing one out of every two employees every year. Of these 50 employees who are leaving, about 39 are quitting their jobs voluntarily; the other 11 are laid off, taken into the Army, etc.

This long-continued drifting away of employees means that today the textile industry has about reached the bottom of the labor barrel.

HANDBOOK FOR OPERATORS. In an effort to speed up the indoctrination



you start machine. It means the spindle belt is loose.

Watch out for waste and slubs coming from previous machines. Advise foreman if you notice any.

Advise foreman if you get hard ends or if you notice damaged cork rollers.

Advise foreman if sliver has tendency of turning around carrier.

Don't put four (4) ends through together.

Don't run machine with less than two turns around flyer.

RING ROVING

Check reserve Reducer bobbins for chalk mark before you start working.

Clean creel pins every time you change Reducer bobbins.

Keep carriers clean and running.

Watch out for ends running off the side of the cork roller.

Change cork rollers as soon as you notice a grove or small cut.

You must make a double loop when you tie the end.

Keep cleaning machine continuously in your spare time.

Watch out for double Roving especially if two (2) or three (3) ends are broken in a row.

Examine bobbins when doffing.

If end keeps breaking, clean ring and change traveller, also take off waste from back roller.

Don't run machine with bands slipped off the spindle. Put them on.

RING SPINNING

Check reserve Rovings for chalk mark before you start working.

Keep carriers clean and running..

Clean creel pins every time you change Roving.

Change cork rollers as soon as you notice a groove or small cut.

Keep cleaning machine continously in spare time.

Watch out for double spins, especially if two (2) or three (3) ends are broken in a row.

Watch out for ends running off the side of cork roller.

If end keeps breaking, clean ring and change traveller also take off waste from back roller.

Don't piece up the same end several times, find the reason for it breaking.

Don't mix bobbins of different chalk mark.

Don't damage cork roller with your hook.

Don't piece up without looking at yarn on bobbin.

RING TWISTER

Check chalk mark on cones before you start working.

The handbook illustrated and described in this article was prepared to assist in the assimilation of new employees by Spinners Limited, Huntington, Quebec, Canada. Copies of the handbook were distributed to each worker and to every new employee as he or she entered the services of the company. Mill men interested in obtaining copies of this handbook may obtain them for the nominal sum of 10c a copy from the Huntington Gleaner, Huntington, P. Q., Canada.—Editor

period, an employee's handbook was prepared. This handbook is printed in both English and French because many of the mill operatives in Canada and in New England speak and read French and have only a limited knowledge of English.

Pages from the Worsted Spinning Mill Employees Handbook are reproduced. At the start the purposes of the mill are briefly outlined, along with two pieces of advice. The first is, "If you make a mistake, report it immediately." The second is, "If anything is not clear, ask questions." If the operator is imbued with these two thoughts, many pounds of yarn will be saved which might otherwise be ruined if the mistake is not corrected immediately.

Use of this handbook has produced excellent results in that the operator, when taking over a new job in the mill, knows the essential operations which he or she must perform.

Each individual operation in the tending of machines used in worsted manufacture is outlined. The processes include drawing and gilling, weighing, ring roving, ring spinning, ring twisting, and winding.

At each knot you tie pull knot back under the roller, to get the full amount of twist.

Show foreman all bobbins showing signs of slack twist.

Don't release end until you have put preasure roller back into position.

WINDING

Clean machine.

Oil spindles.

Put a ticket with your number in each cone.

Check chalk mark every time you handle a bobbin.

Watch for bobbins that are different in size or colour and advise foreman.

Advise foreman when a cone doesn't lift when the end is broken.

Watch for slubby looking spinning bobbins that are caused by bad spinning rollers.

Watch for thick yarn and double spins.

Discard all bobbins with oil stains.

Watch for single end twister bobbins.

Watch for soft bobbins caused by slack twist.

Watch for slack twist in twister bobbins right after knot.

Don't mix bobbins of different chalk mark.

Don't use a damaged paper cone.

Don't put a cone that you have taken off the spindle back again.

Montrez au contre-maitre toute bobine nt pas assez de torsion (slack twist). uand vous rattachez, ne lâchez pas le fil d'avoir posé le rouleau de pression.

BOBINEUSES (WINDER)

oyez la machine.
ez les broches.
es une étiquette avec votre numéro dans one.
ez la marque chaque fois que vous bobine en main.
le contre-maitre si vous trouvez des fférentes des autres en couleur ou
le contre-maitre si un cône ne lève pas min est cassé.
bobines pleines de grosseurs, prove-rouleau de liége endomagé sur les
n fil gros ou du fil double.
utes bobines contenant des taches
les bobines des retordeuses con-mple.
bobines des retordeuses molles qui ht pas assez de torsion.
fil tout de suite aprés un noeud. n bout qui manque de torsion.
jamais des bobines ayant une ifférente.
des cônes en papier en-
remettez pas sur la broche un cône, que ez enlevé précédemment.

Simple Changes Speed DUCK-YARN TWISTER Production

HIGHLIGHTS: Creel change allows space for larger cones or spools. Large-package winders are used to produce "knotless" duck yarn. Addition of separators permits lighter travelers and higher speeds.

By HORACE L. PRATT

SPECIAL PROBLEMS in the dry-twisting of yarns are being encountered by mills which have converted from other fabrics to the manufacture of cotton duck. They issue from the necessity of "knotless" yarn in duck weaving and from the demands for higher production of this essential war material. To meet these problems, mills have devised simple methods of changing their machinery so that larger supply packages may be used and the most efficient use of the twister itself may be made.

Most duck yarns are twisted from conventional spools, cheeses, or other wound packages; and are wound on a package suitable for creeling the next process, which may be warping, beaming, winding, or weaving. Formerly, they were wound exclusively by the conventional spooler on double-head spools; and there are hundreds of these old-type spooler spindles still in operation. This method entails frequent stoppage for creeling; and because of the resultant cost, mill men have worked toward a complete installation of larger supply packages.

Machine builders have developed various types of winders which deliver yarn on large packages. Some of them build packages which contain up to twice the amount of yarn found on the conventional spool. Since these packages are produced on cores without supporting heads, proper supervision must be given the winders to insure a good build of the package.

Fig. 1. Alternate spindles are lengthened to accommodate larger packages from winder. Note the bushing and the pigtail guides.

CREEL CHANGE. The construction of a creel for conventional spools is relatively simple. The creel consists of supports made in the shape of an inverted "V" on which are fastened horizontal slats spiked with stationary spindles. Each spindle carries a heavy washer, usually convex in shape, to prevent tension on the yarn being caused by the spool head rubbing against the slat. The creel may be from two to twelve spindles-rows in height.

When changing from the conventional-size spool to larger packages of supply, such a creel as described above must be changed in some way to provide more space. One simple way of solving this problem is to lengthen alternate spindles in each row. Packages creeled onto these lengthened spindles overlap the packages creeled onto the short spindles, as shown in Fig. 1. By placing a permanent bushing of some kind, possibly of wood, on the lengthened spindles, the large packages may be creeled without touching the adjacent rows. Pigtail guides, brazed to the ends of special spindles, guide the yarn from the long spindles to the twister rolls. A creel of this kind must be made of heavy material and should be substantially braced. To reduce vibration, the spindles should be almost as large in diameter as the core of the package.

The rolls of the twister do not draft the yarn, but simply keep it un-

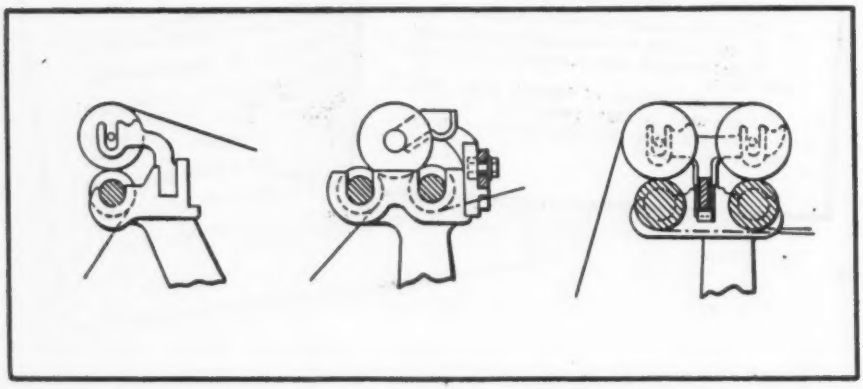


Fig. 2. Three types of twister rolls and the methods for wrapping them.

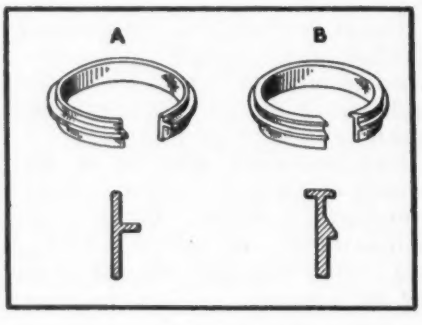


Fig. 3. The vertical ring (A) with a bronze traveler, or the flange ring (B) with a steel traveler, may be used on duck-yarn twisters.

der tension as it is drawn from the creel, twisted, and wound onto the delivery spool. Certain types of rolls actually draw the yarn from the creel package, while other types act only as a tension and guide for the yarn. On the latter type, the yarn ceases to run when the end breaks between the rolls and the creel packages. Fig. 2 shows three types of rolls and the method of wrapping each.

The grooved front roll, shown in Fig. 1, practically eliminates waste, according to some overseers of twisting. It is of the type which will not run a broken end. Of course, if one of the grooves should contain a rough place or if excessive humidity has caused moisture to collect on the rolls, the broken end would probably lap up.

TWISTER RINGS. Two types of twister rings, Fig. 3, are in general use: the vertical ring, and the flange ring. The vertical ring mounts a bronze traveler which requires lubrication, and the flange ring uses a steel traveler which does not require lubrication.

There is much discussion, and considerable difference of opinion, among twister-room overseers concerning the vertical and flange rings. Generally, it is possible to get more yarn on the bobbin when using the vertical ring and bronze traveler, since a heavier traveler may be run. However, it is difficult to keep the vertical ring clean, and oil occasionally gets on the yarn. This is expensive because the individual end may not show oil, but when it is woven into cloth the oil readily appears as a yellowish streak.

Separators were standard twister equipment for many years, but they went into a period of disuse when many mills discarded them. Lately, however, wartime transition to heavier twisting has led many overseers to resume the use of separators. A heavy traveler, of course, will prevent adjacent ends from whipping each other down by excessive ballooning of the yarn; but by using lighter travelers and separators, higher twister-speeds are made practicable.

A separator designed to accomplish the above advantages is shown in Fig. 4. It is the solid metal type. The use of this type of separator decreases bad work generally. When an end comes down and continues to run, the separators prevent it from whipping into adjacent ends and causing the yarn to be fuzzy with deposits of lint and fly.

The processes subsequent to twisting determine the type of bobbin to use on the twister. Double-head bobbins are commonly used for beamers, looms, older-type warpers, and rewinders; and they are very effective when knotless goods have to be made, due to the fact that more yarn can be put on them than on the single-head bobbin.

The latter, sometimes called a button-head bobbin, is usually employed when yarns are to be rewound and over-end delivery is desirable. Many twister-room men are of the opinion that its use permits higher speeds on the twister and subsequent machinery than does the double-head bobbin.

Fig. 4. Use of separators permits lighter travelers and higher speeds.

KNOCK-OFF COUNTERS. When knots were permissible in cotton duck, the length per doff was not important. Yarns as heavy as 7/7 were rewound on parallel tubes, with three 4 x 7 in. bobbins to the tube, and the yarn ends tied with weaver's knots. The rewound tubes were taken to a warper, the yarn run on section beams and then beamed on a section beamer. However, when buyers began to specify duck without knots, duck mills found it necessary to run special lengths on the twisters.

Bobbins, containing a predetermined amount of yarn, were usually handled by one of two methods. In the first method, no winder was used. The yarn was creeled in the warper, where two or more beams were made for each creel. The necessary number of these warper beams were then combined in the section beamer in order to secure the required number of ends for the loom beam. The second, and less expensive method, was to creel the yarn packages directly behind the beamer. In both methods, correct length was obtained by running the yarn down as far as possible and salvaging the remaining waste for rope or mops.

Although it may appear to be simple, the making of special-length yarns has always been difficult. The most difficult part probably has been due to the necessity of depending upon the human element. For example, the first mechanical knock-off for twisters employed a series of gears attached to the front roll. When the desired number of yards had been run, these gears would shift the belt from tight to loose pulley. But the human element was involved in setting the gears, with the result that many long and short doffs were made. Another defect of this knock-off was inflexibility. It could not provide the wide range of lengths necessary in the average beaming room.

A later method was the re-setting yardage counters. These counters were set only by key. However close the supervision of these counters, the human-element problem was never licked. Some mills held twister operators responsible for watching the counters, stopping the frames, and re-setting the counters. Other mills designated someone who did nothing but watch the frames, register the doffs, and re-set the counters. In both cases, it was a question of an effective mechanism for yardage control, but none for human control.

PLANNED PRODUCTION

Keeps Callaway Deliveries on Schedule

By G. H. WILLIAMS
Production Supervisor, Hillside Plant
Callaway Mills, La Grange, Ga.

HIGHLIGHTS: Promises of delivery are based on ability to produce. Orders are quickly traced through mill by departmental reports. Complaints eliminated by mill-wide participation in plan.

CAREFUL PLANNING of production to meet delivery-promises has enabled Callaway Mills to eliminate complaints and deliver the goods on time. The keynote of Callaway's success in this lies in close cooperation between the sales department and the production department. Records showing the equipment being used on various orders in the mill are kept daily and weekly, and these records are the basis upon which the sales department promises delivery on each sale.

Careful adherence to a definite plan has been the deciding factor. Briefly, the plan is as follows:

1. Orders are accepted if the equipment at the mill is available.
2. Work is scheduled and a delivery date fixed.
3. Daily reports on progress are carefully studied by key men.
4. Goods are delivered on time.

The accompanying charts and explanations show step by step the procedure followed in the [illegible] through the mill. With [illegible] has been possible to forestall delays and insure delivery. These reproduced reports are based on theoretical constructions, but they closely parallel actual reports in the files. A similar set of reports can be worked out for plants making a wide variety of fabrics.

Fig. 1 WEEKLY LOOM SCHEDULE

DATE 4/2/45 XR

Loom Groups	CODE	Loom Wt.	TOTAL YARDS	300 - 40" Looms 4/2	9	16	23	30	5/7	14	21	28	6/4	11	18	25
40"	40"-2778	157	329700	165	165	165	165	165	165	165	165	165	165	165	165	120
"	40"-1778	157	42600	21	21	21	21	21	21	21	21	21	21	21	21	19
"	37½"-9678	557	184527	30	30	30	30	30	30	30	30	30	30	30	1	
"	37"-652	675	16063	50	50	50	50	38								
"	31"-33511	295	40120	34	34	34	34									
"	Total			300	300	300	300	254	216	216	216	216	216	216	187	139
"	For Sale							46	84	84	84	84	84	84	113	161	300

LOOM SCHEDULE. Fig. 1 shows the Weekly Loom Schedule compiled each week, and illustrates the styles, widths, yards per week, and balance to

**A production conference—seated, T. M. Hampton, assistant superintendent Hillside Plant, Callaway Mills; standing at left, G. H. Williams, production supervisor; at right, S. B. Spence, overseer of weaving.*

Fig. 2 DAILY LOOM & WARP & SPINNING REPORT

PLANT Hillside DATE 4/2/45 XR

Loom Group	Width	Yds. Lb	Style	LOOMS Running 1st	2nd	3rd	Total	Required	Stopped	Cause	WARPS Running Out	On Floor Drawn	On Floor Not Drawn	Grade	Warp Yarn No.	Section Beams	Grade	Filling Yarn No.	Total Looms on Each Filling	Filling Frames Run'g	Cabs Filling on Hand
40"	40"	1.92	2778	165	165	0	165	165	0		5	8	4	Sp.	17½/1	4	Sp.	18/1	186	13	10
"	40"	1.76	1778	21	21	0	21	21	0		2	5	2	Sp.	16/1	2	Sp.	18/1			
"	37½"	1.25	9678	29	29	0	29	30	1	Warp Out	8	5	14	Sp.	8/1	10	Sp.	4.75/1	114	9	10
"	37"	2.79	652	50	50	0	50	50	0		5	5	9	Sp.	14/1	4	Sp.	4.75/1			
"	31"	.91	33511	34	34	0	34	34	0		7	3	10	Sp.	9/1	6	Sp.	4.75/1			
	Total			299	299	0	299	300													

made on each style. To arrive at a delivery date for the sales department to promise on a sale, two simple calculations are made: (1) the yards produced per week per loom are divided into the total yards required to fill the order, which gives the number of looms required to complete the contract in one week; (2) this number divided by the number of looms running on this particular style in the weave room gives the number of weeks required to fill the order.

This report is worked for each style running in the weave room each week. In this way it is possible to keep a close check as to whether the schedule is being met and whether delivery of the goods can be made as promised. The report shows how many looms are available for new orders and in what week shipment may start on new sales. A copy of this report is given to the overseers of weaving, spinning, and twisting. The weave-room overseer uses it as his guide to the number of looms to run on each style on each group of looms.

The Daily Loom, & Warp, & Spinning Report (Fig. 2), made each morning by the weave-room overseer, is delivered to the overseer of spinning, the overseer of twisting, and the production supervisor. This report is divided into loom groups, showing yards per pound, style, number of looms running on each of the three shifts, and the total number of looms. It also shows the required number of looms as taken from the weekly loom schedule, the number and causes of looms stopped, the number of warps running out each day, the number of warps on the floor drawn, the number of warps on the floor not drawn, the grade and yarn number of the warp, number of section beams used, grade and yarn number of the filling, total looms on each number, and the total number of cabs of filling in the filling house ready for the weave room. This report gives a complete picture of the weave room on one sheet.

The weave-room overseer also makes out a Filling Report (not shown) at the beginning of each shift, on which he shows the yarn number, grade, frames running, cabs of filling on hand, total looms, and looms running. One copy of each of these reports goes respectively to the production supervisor, the spinning-room overseer, and the twister-room overseer.

SPINNING REPORT. The overseer of spinning makes out a Daily Frame Report (Fig. 3) each morning which shows the number of frames running on the first, second, and third shifts; the yarn number, grade, and identification mark; hank roving; and the yarn production each eight hours. A copy goes to the production supervisor and the overseers of weaving, twisting, and winding. This report can also be used for twisting.

The production department gives the spinning-room overseer the number of frames to be run on each warp number and the number of shifts to run these frames. The spinning-room overseer schedules the number of frames to put on each filling-yarn number, and he is responsible for keeping filling in the filling room ready for the looms at all times.

The twisting-and-winding overseer makes out the Yarn House Report (Fig. 4) the first thing each morning. It shows the yarn number, grade, lot, and turns per inch; the number of cheeses, starters, paper cones, wood cones, cone pieces, tubes, and pounds. A copy is delivered to the production supervisor and the spinning and weave-room overseers. This report gives a complete picture of the yarn in the yarn house ready for the warpers and twisters.

WARP SCHEDULE. The next report is the Spinning-room Warp Schedule (Fig. 5) which is made out by the production department and is delivered to the spinning room. It shows the yarn number, the pounds required each week, the pounds produced per shift per frame, and the frames to be operated on each shift. It also shows the type of frame, the hank roving which is being spun, and the pounds which will be produced by the number of frames running. This report is made out each time a change is to be made in the warp-spinning schedule. The spinning and card-room overseers receive a copy each time it is made out.

The planning system here described was designed for peacetime operation and is more complicated than when operating on war contracts as at present. It can be modified to meet the requirements of any mill.

Fig. 3

CALLAWAY MILLS

Hillside PLANT

DAILY FRAME REPORT

Spinning Department Date 4-2-45 194

YARN NO.	GRADE	H.R.O. T.P.I.	FRAMES 1st SHIFT	FRAMES 2nd SHIFT	FRAMES 3rd SHIFT	PRODUCTION 8 HOURS	MARK
			WARP FRAMES				
8	Spec.	90 S.	4	4	0	772	Brown
9	Spec.	90 S.	3	3	0	513	Light Pink
14	Spec.	1.80 D.	4	4	0	380	Light Yellow And Light Green
16	Spec.	1.60 D.	1	1	0	76	No Mark
17½	Spec.	1.80 S.	6	6	0	408	Dark Pink
			FILLING FRAMES				
4.75	Spec.	60 S.	9	9	0	2655	Dark Green
18	Spec.	2.90 D.	13	13	0	1061	Light Green

Fig. 4

Hillside PLANT

YARN HOUSE REPORT

DEPARTMENT DATE 4-2 194 5

YARN NO.	GRADE	LOT	T.P.I.	NO. CHEESE	NO. STARTERS	NO. PAPER CONE	NO. WOODEN CONE	NO. CONE PIECES	NO. TUBES	NO. POUNDS
8	Spec.	Natural		3200	1875					8845
9	Spec.	Natural		3800	1460					10157
14	Spec.	Natural		1680	2600					5370
16	Spec.	Natural		1950	1740					5658
17½	Spec.	Natural		1850	1250					5188

Fig. 5

HILLSIDE PLANT
SPINNING ROOM WARP SCHEDULE

DATE EFFECTIVE 4-2-45

YARN NO	POUNDS REQUIRED	FRAME POUNDS PER SHIFT	FRAMES TO BE OPERATED FIRST	SECOND	THIRD	TYPE FRAME	POUNDS WILL BE PRODUCED	ROVING
8/1	9404	199	4	4	0	Saco-Lowell	9552	.90S.
9/1	5998	171	3	3	0	Saco-Lowell	6156	.90S.
14/1	4440	95	4	4	0	Saco-Lowell	4560	1.80D.
16/1	783	76	1	1	0	Saco-Lowell	912	1.80D.
17½/1	4749	68	6	6	0	Saco-Lowell	4896	1.80S.

LOOMFIXER'S TOOLS—Weapons of Production

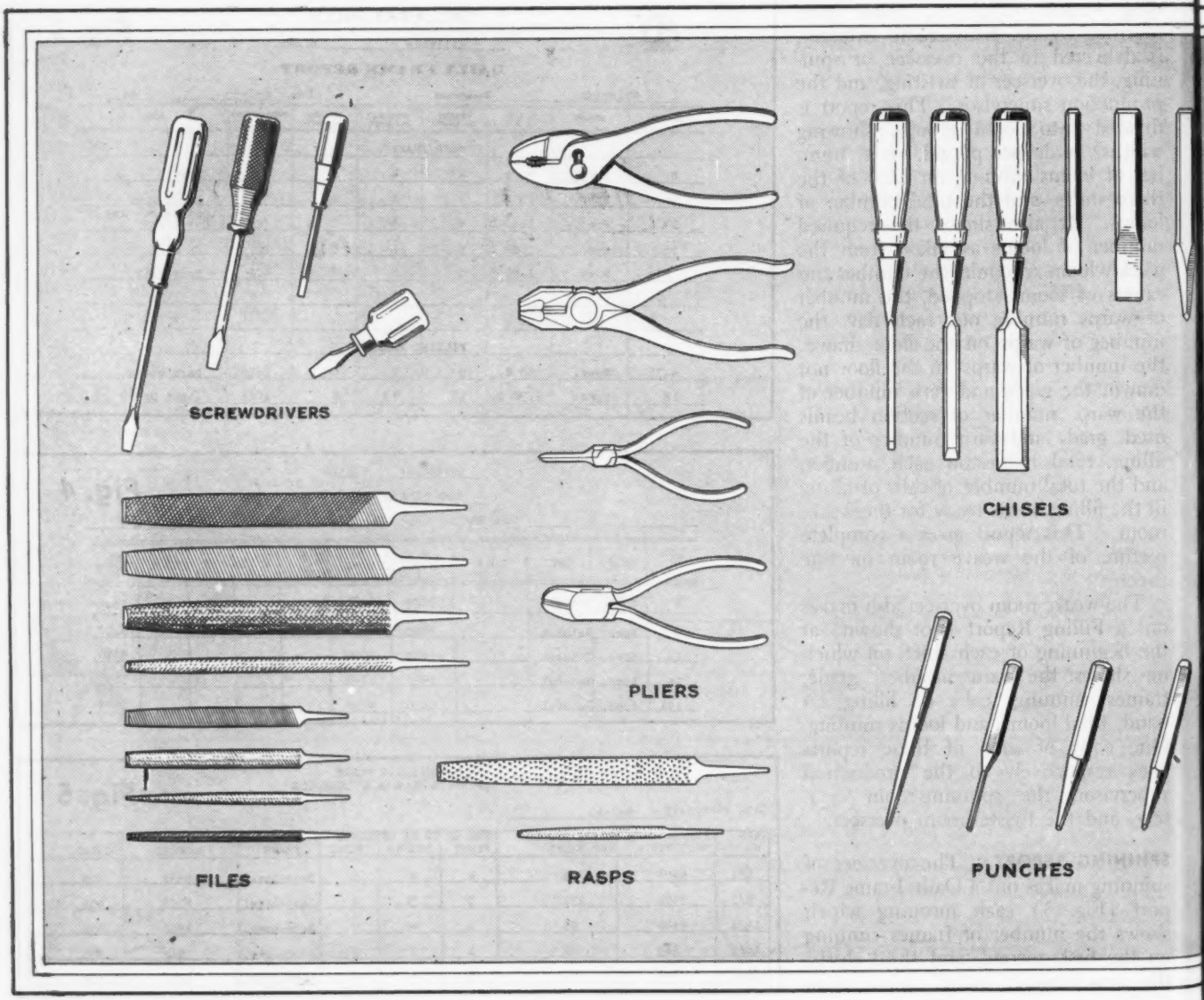
HIGHLIGHTS: Simple hand tools in fixer's tool box should include screwdrivers, pliers, files, drills, hammers, and a number of woodworking tools.

THIRD IN A SERIES of articles, which deal with the weapons of production of the loomfixer, this installment covers many of the common hand tools that should be found in the average loomfixer's tool box.

With the tools listed in this article and those given in the two previous articles, appearing in the January and February issues of TEXTILE WORLD, a loomfixer should have very little trouble in handling almost any problem that may arise around a loom. The first of these articles covered simple measuring tools, while the second discussed wrenches.

SELECTING HAND TOOLS. A set of screwdrivers, carefully selected, usually includes a long-handled and a short-handled, heavy-duty screwdriver. The former perhaps 12 in. and the latter not over three inches in length. These will handle most work about looms. The small screwdriver is generally used for close work. Every kit should also include a screwdriver with insulated handle for use near electric wires. A light, small screwdriver is required for adjusting the tension on a Paterson-type shuttle eye.

Among the pliers used should be an 8 in. slip-joint model. This type, frequently called combination pliers, is so designed as to permit the jaws to be opened wider at the hinge pin, allowing the pliers to be used for grip-



ping items varying greatly in diameter. Side-cutting pliers of the type used by electricians should be found in the tool kit of any loomfixer who has to do much electrical work. These pliers are useful for cutting electric lines.

Duckbill pliers—that is, those that have a long, tapered nose—are useful for straightening reed wires. They may also be used for picking up parts that are in fairly inaccessible places.

Diagonal pliers have their jaws at an angle and hence are ideal for pulling cotter-pins, for cutting the pins at the right length, and for spreading the pins after they have been inserted.

It is essential that the fixer have in his kit at least one set of the files illustrated, as these represent the most useful out of the twenty-odd different types available. The bastard file is for coarse, rough cutting where speed is necessary. The half-round bastard is for filing surfaces that have a large concave surface, while the second-cut file is used for smoothing a surface. The smaller files are for use in handling small work. The three-square, or triangular, file is excellent for notching and repairing damaged bolt threads.

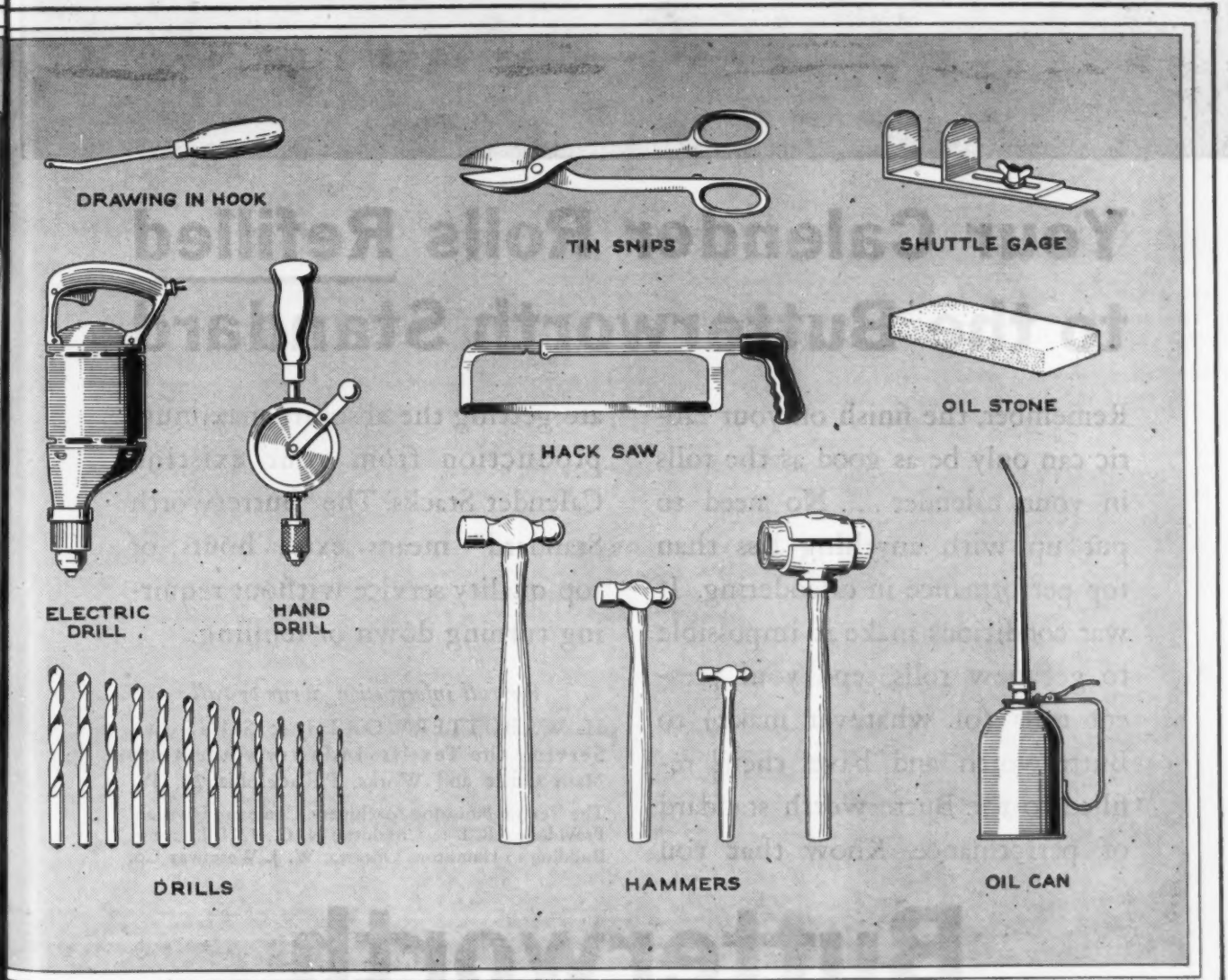
It is advisable to have a number of wood rasps in the tool box to permit working on the loom lay. A set of wood chisels should also be included to permit work on and about the lay, as it is often necessary to undercut the well on the lay of a center-type filling stop motion.

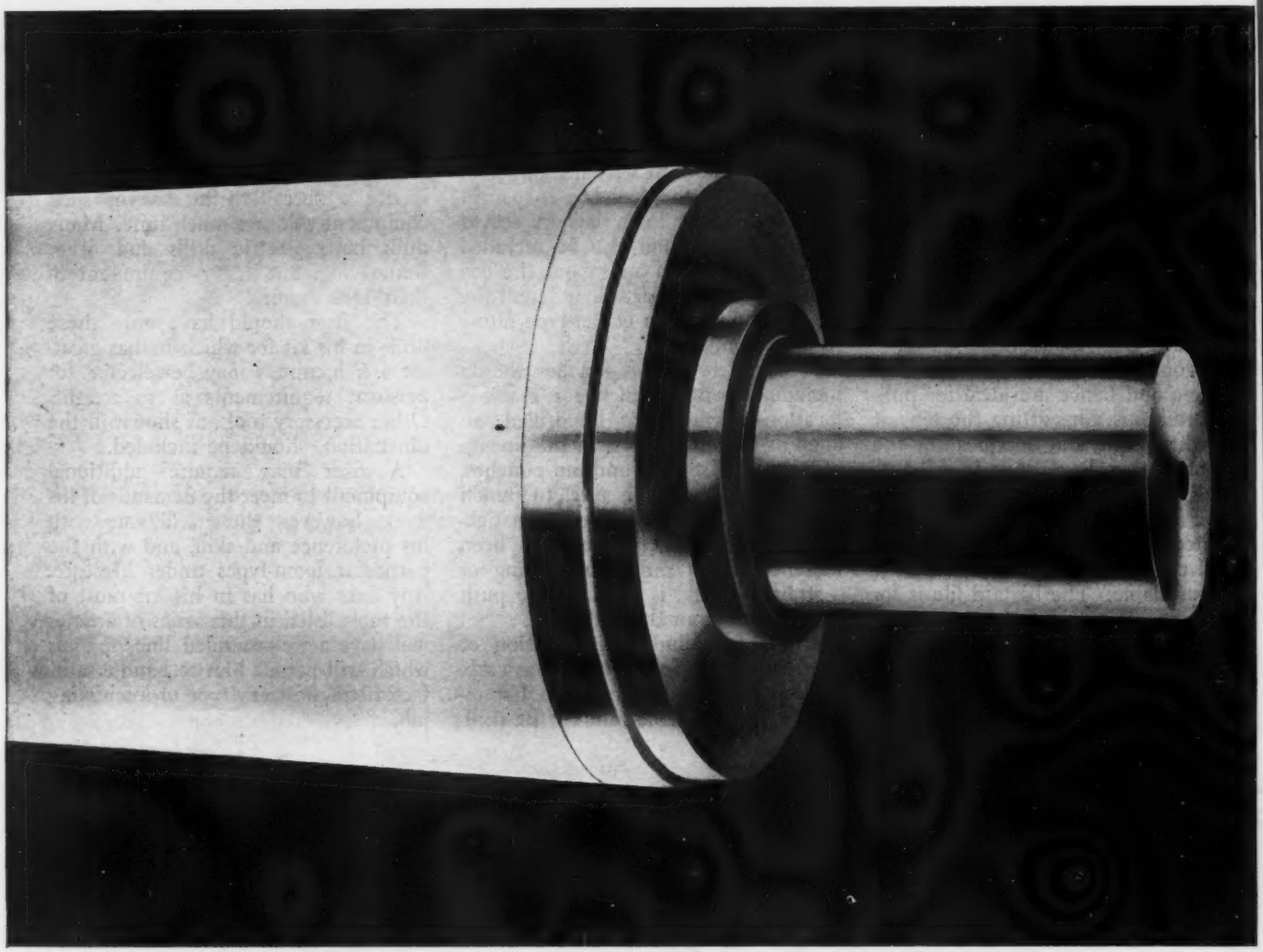
A complete set of punches should include a center punch for marking locations of holes to be drilled, an aligning punch to assist in the line-up of holes, and starting and pin punches. The starting punch is used to punch out rivets and to "break" or start sticking pins. After the pin has been loosened a pin punch, consisting of a straight shank, is employed to push the pin out from the casting.

Fixers may find the possession of an electric drill an asset in their work, because there are many jobs that require a considerable amount of drilling. This drill can also be used for many other purposes, such as buffing by the addition of a chuck to hold a small shaft to which is attached a buffing wheel. While an electric drill is not a necessity, the use of such equipment will save much time. Many mills have electric drills and other time-saving, but heavy, equipment in their tool room.

The fixer should have only those drills in his kit for which he has greatest use; hammers may be selected for personal requirements as to weight. Other accessory tools, as shown in the illustration, should be included.

A fixer may require additional equipment to meet the demands of his work; however, these will vary with his preference and skill, and with the particular loom-types under his care. Any fixer who has in his kit most of the tools listed in this series of articles will have a well-rounded line of tools which will permit him to handle satisfactorily almost any type of loomfixing job.





Your Calender Rolls Refilled to the Butterworth Standard

Remember, the finish on your fabric can only be as good as the rolls in your calender . . . No need to put up with anything less than top performance in calendering. If war conditions make it impossible to get new rolls, send your present rolls (of whatever make) to Butterworth and have them refilled to the Butterworth standard of performance. Know that you are getting the absolute maximum production from your existing Calender Stacks. The "Butterworth Standard" means extra hours of top quality service without requiring turning down or refilling.

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Butterworth

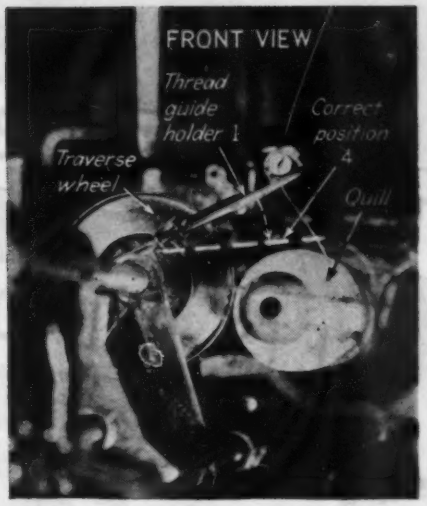
FIXING Filling Winders Shown by Photographs

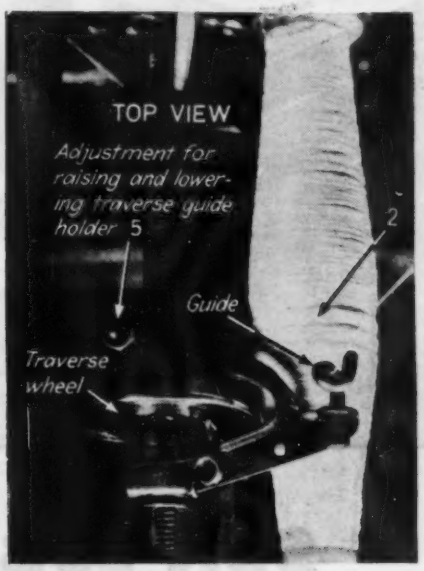
HIGHLIGHTS: Four common troubles can be easily corrected when causes are known. Often more than one factor can be responsible.

By ALFRED KING

FOUR OF THE CHIEF TROUBLES confronting the quiller mechanic are illustrated here: short heels, deep grooves or indentations on the heel of the quill, slip marks or grooves on the body of the quill, and tapered quills.

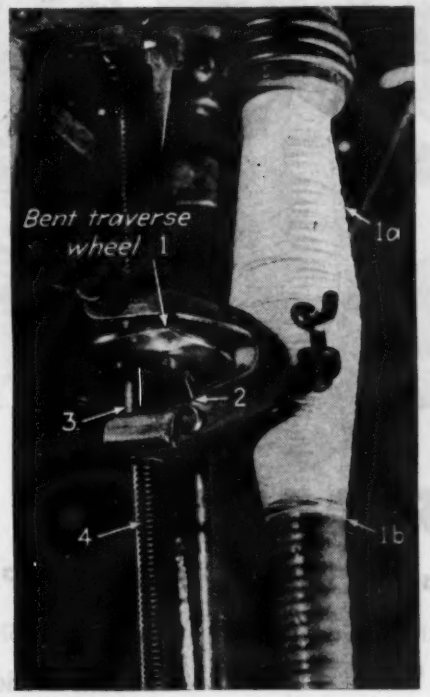
The cause and correction for these faults, as they occur on No. 90 Universal filling winders, are shown under the photographs. The corrections given are not cure-alls but, rather, will serve as guides, principally to the newer fixers. Photographs are used since they show faults and corrections more easily than can be done with words.





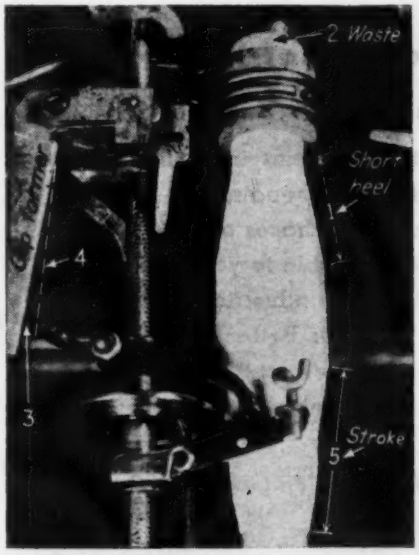
Fault: *Above two views show the thread guide holder 1 in a wrong position which caused slip marks 2.*

To correct: *Lower the thread-guide holder 1 to the position shown by the dotted line 4 by raising the adjusting screw 5.*



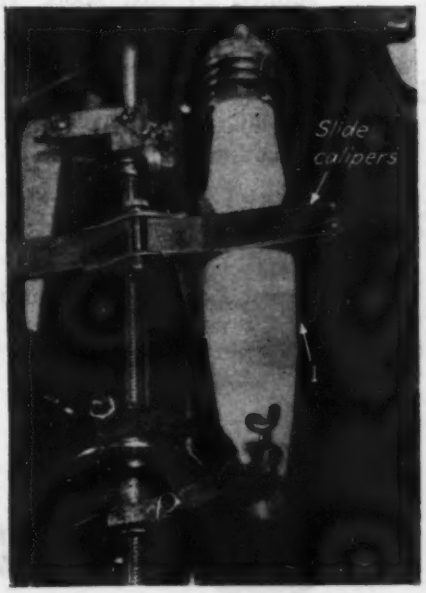
Fault: *The bent traverse wheel 1 was the cause of the grooves 1a and the incorrect reaction on the nose 1b.*

To correct: *Replace the bent wheel with a new one. If this trouble occurs and the wheel is found to be good, check the traverse-wheel spring 2 for tension and the hub 3 or traverse bar 4 for worn threads.*



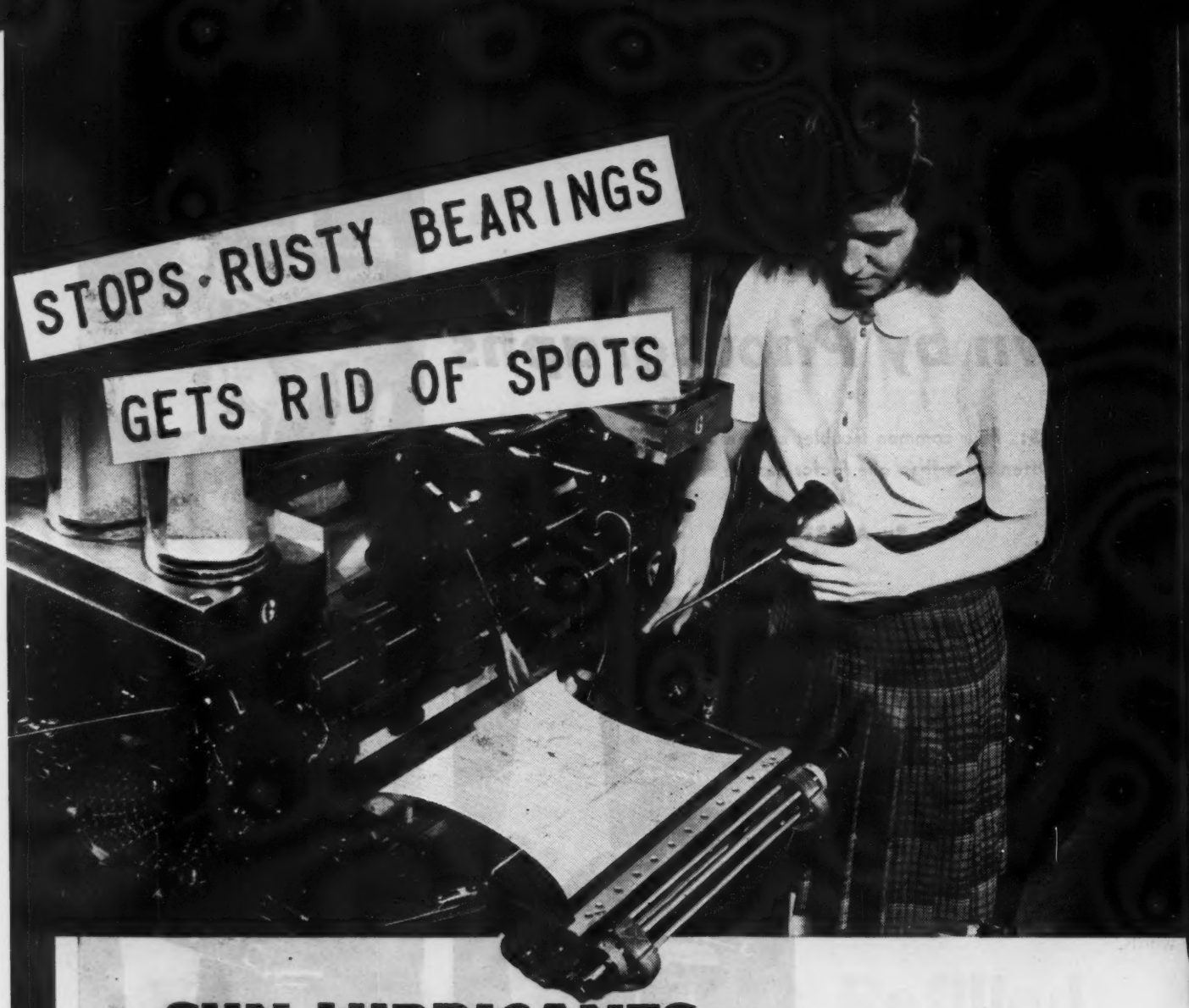
Fault: *The short heel shown in 1 was caused by waste on the spindle 2 or cop former out of adjustment 3 and 4. The short heel, in turn, caused the incorrect concave reaction on the nose of the quill 5.*

To correct: *Remove the waste or adjust cop former, or both if necessary. Set cop former to line 4. The heel should be approximately the same length as the stroke 5.*



Fault: *This tapered quill was caused by a bent spindle on which the quill revolves. The slide caliper is set for the correct size, but note the difference 1 between the caliper and quill.*

To correct: *Straighten the spindle by using a soft, red pencil. Start the spindle and touch it lightly with the pencil. Stop the spindle and bend it away from the red mark. Erase the red mark and repeat the operation again and again until the line formed by the pencil on the spindle is solid around the spindle. The spindle will then be true.*



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Keep Bearings Clean in Hosiery Mill, End Problem of Rust Spots

A Pennsylvania hosiery mill had continued trouble with rusty bearings on full-fashioned machines. Stockings were constantly being spoiled by rust spots. The bearings were cleaned frequently, but condensation caused rust to return in less than a week.

Spotting stopped when a Sun engineer attacked the problem. He recommended a special Sunoco oil which is suited for conditions where moisture is present. Since then, stocking production has gone up, rejects gone down. Bearings stay bright and clean and last longer. Shut-downs have been reduced.

Stubborn lubrication problems in textile mills frequently yield to Sun engineers, trained and experienced in all phases of lubrication. These men make available to you one of the world's finest lines of industrial lubricants and processing oils. For better manufacturing, and for efficient, low-cost lubrication and processing, put this combination to work in your mill today. Write to

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Chlorination Formula SHRINK-PROOFS Wool Hose

HIGHLIGHTS: Wool shrinkage is controlled by modified chlorination process. Formula applies to lightweight and cushion-sole hose. Operation done in rotary dyetub.

By WILLIAM M. RUSH
Superintendent, Powell Knitting Co.

NEW METHODS to shrink-proof wool have been developed during the war. Most of them have been designed to control the felting of wool fabrics and hosiery during the laundry processes. While the melamine-resin methods give good results in many varied operations, one of the first and most practical methods developed for wool hosiery is the wet-chlorination method.

There are many modifications of this method in general use today. The formula shown applies to lightweight and cushion-sole hose which contains 50 to 70% wool. The shrink-proofing is obtained by processing as outlined below.

ROTARY DYETUB USED. The goods are first wet-out. No scouring is necessary as French worsted does not contain a great quantity of oil. The wetting-out can be obtained in any hosiery dyetub: rotary and paddle models are frequently used. Monel-metal, stainless-steel, or wood tubs are preferred. Aluminum tubs with brass or copper fittings should not be used, since the chemicals corrode these metals.

The water should be 65° to 75° F., and the water-level in the tub should be the same as that used for a first-scouring or wetting operation. Borax should be added to the water in amount of 1%, and the tub should then be run approximately 5 min.

The next step is the separate mixing of a solution of calcium hypochlorite (high-test). This contains about 70% available chlorine and should be mixed at a ratio of 1 lb. to 2 gal. of water. A good solution of this separate mixing must be obtained. Enough of this solution should be added to the bath in the dyetub to amount to a 4½% mix. It is added to the bath very slowly. Since it is difficult to mix with water, 10 to 15 min. should be allowed for this mixing operation. Too large a quantity added at one time will result in spotty dyeing.

Sodium bi-sulphite (1%) is added next. This chemical may be dumped directly into the tub, since it mixes easily with water. The bath should now be run for an additional 10 to 15 min. Up to this point, only one bath of water has been used; and it has been maintained at 65° to 75° F.

The bath is now dropped, and fresh water is drawn and brought to a temperature of 110° to 120° F. The machine is then allowed to run five minutes as a rinse. The bath is dropped, and a second rinse is taken exactly like the first.

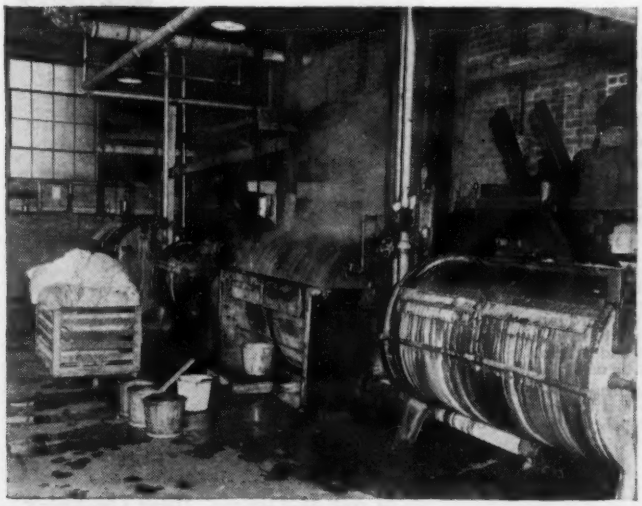
At this point, dyeing can proceed as usual. The same amount of dyestuff cannot be used however. The chlorine discolors the goods, and dyers therefore have to reduce the amount of dyestuff in order to obtain the desired shade.

SHRINK-PROOFING FORMULA

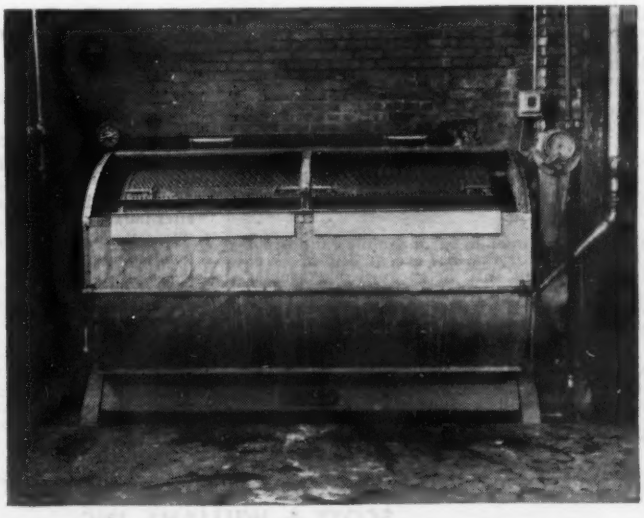
Calcium hypochlorite (hi-test)
1 lb. to 2 gals. of water mixed separately; add to bath at 4½% of total.

Borax
Add to bath at 1%

Sodium bi-sulphite
Add to bath at 1%



Calcium hypochlorite is thoroughly mixed in separate vessels before being added to the bath.



This rotary dyetub is used in the chlorination process because of its monel-metal construction.

COIN A NAME FOR "THE STOCKING OF THE FUTURE"

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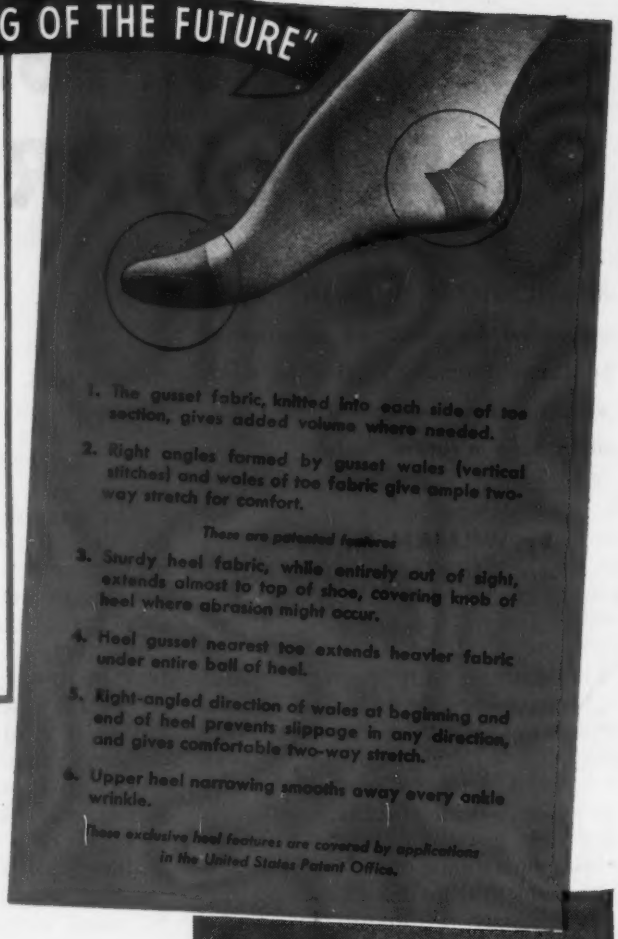
WILL BE AWARDED FOR NAMING

This New Nylon Stocking

To Be Produced Exclusively on Scott & Williams Machines

First Prize	**$1,000.00 War Bond**
Second Prize	**$500.00 War Bond**
Third Prize	**$300.00 in War Bonds**
12 Prizes . . .	**$100.00 War Bond each**
20 Prizes . . .	**$50.00 War Bond each**
40 Prizes . . .	**$25.00 War Bond each**


1. The gusset fabric, knitted into each side of toe section, gives added volume where needed.
2. Right angles formed by gusset wales (vertical stitches) and wales of toe fabric give ample two-way stretch for comfort.
These are patented features
3. Sturdy heel fabric, while entirely out of sight, extends almost to top of shoe, covering knob of heel where abrasion might occur.
4. Heel gusset nearest toe extends heavier fabric under entire ball of heel.
5. Right-angled direction of wales at beginning and end of heel prevents slippage in any direction, and gives comfortable two-way stretch.
6. Upper heel narrowing smooths away every ankle wrinkle.
These exclusive heel features are covered by applications in the United States Patent Office.

A new nylon stocking, representing important advances in hosiery design will be offered to the women of America as soon as nylon is released from war requirements. Scott & Williams will award $5,000.00 (maturity value) in War Bond prizes to winners in a contest for a name which truly reflects the superior qualities of this "Stocking of the Future."

Try to imagine a stocking of 15, 20 or 30 denier nylon knitted on a machine even finer than magical 51 gauge—so perfectly shaped and molded that it fits the slenderest ankle without a shadow of a wrinkle, yet is amply proportioned at the top. Completely free of seams, it is ultra-sheer throughout, with heel and toe pockets knit doubly strong where needed to resist abrasion.

Note the photograph of Marie McDonald, lovely Hollywood star, wearing these gossamer-sheer, seam-free stockings. Twisted leg seams are banished! The absence of foot seams insures real walking comfort. Study carefully the enlarged photographs of the toe and heel sections showing details of the Gussetoe and Post War Heel with its double-extended gussets—Scott & Williams' exclusive (patented and patents pending) features. Then coin a name that truly reflects the qualities of this new stocking, and prepare a statement of 100 words or less, telling why you believe it to be *the* "Stocking of the Future." You have 75 chances to win a substantial prize. Read the rules carefully. Mail your entry NOW.

Marie McDonald, Hunt Stromberg star, appearing in "Young Widow."

HERE ARE THE RULES

1. On one side of a plain sheet of paper, write your suggestion for a name which you think appropriate for the new nylon stocking without a seam, described in this advertisement. Immediately below the name write a letter of not more than 100 words telling . . . why you believe it will be *the* stocking of the future. Then print your name and address plainly. That's all!

2. You may submit as many entries as you wish, but each must be on a separate sheet of paper. No more than one prize will be awarded to a single contestant.

3. The contest is open to anyone in the continental United States or Canada, except employees of Scott & Williams, Inc., their advertising agencies and their respective families. All entries must be the original work of the contestants, submitted in their own names. The contest is subject to all Federal, State and Dominion regulations.

4. All entries and ideas therein become the property of Scott & Williams, Inc., to use as they see fit. No entries will be returned.

5. Seventy-five prizes totaling $5,000 (maturity value) in War Bonds will be awarded to the better entries as follows:

1st Prize.....	**$1000 War Bond**
2nd Prize.....	**$500 War Bond**
3rd Prize	**$300 in War Bonds**
12 Prizes.....	**$100 in War Bonds**
20 Prizes.....	**$50 War Bond each**
40 Prizes.....	**$25 War Bond each**

All winners will be notified by mail and a list of winners will be published as soon as possible after judging has been completed.

6. The winning names will be selected by an independent organization of experienced contest judges and a group of prominent fashion authorities . . . on the basis of their originality and appropriateness for advertising and sales purposes. In case of ties, the 100-word letter will be the deciding factor . . . on the basis of aptness of thought, sincerity, interest and originality. The decision of the judges will be final.

7. This contest closes midnight July 31, 1945, and all entries must be *postmarked* before that date and received before August 10, 1945. Mail your entry to:

STOCKING OF THE FUTURE CONTEST
SCOTT & WILLIAMS, INC.
P. O. Box 23, New York 8, New York

MACHINES and TECHNICS
Vary With Plastic Coatings

HIGHLIGHTS: Failure of prewar supply sources makes use of plastics necessary. Three types of machines are now used. Some plastics should not be heated. In coating, tolerance of less than one-thousandth of an inch is possible.

By JOHN B. CLEAVELAND

COATING is a continual process of adaptation. There is no universal coating machine; rather, there is an almost bewildering variety of machines, some of which have a general appeal and some of which are suited only to a limited type of production. It is only natural, therefore, that coating technicians should continually hear the questions, "Which machine is best?" "Which type should we put in?"

The modern coating of textiles with plastics has evolved from three separate technics: the coating of artificial leather, the coating of paper, and the coating of rubber.

These technics in themselves are old and time-tried. They have been worked upon and changed through the years as coating materials have been changed, till now they are highly efficient and satisfactory for their purposes. However, these methods were developed with certain definite volume fields in view. The war has brought many new plastics to the fore. A decade of progress has been squeezed into two or three years. Have the coating machines and methods changed too? Has the emphasis moved from one technic to another? To answer this, it becomes necessary to examine the properties of the materials for which the machines were designed and compare them with the properties of the postwar plastics for which the machines will be adapted in the future.

Fig. 1. The knife-spreader coating machine is well-suited for short runs and light coatings.

PREWAR MATERIALS. The principal materials in use before the war were pyroxylin and rubber. Pyroxylin, or soluble guncotton, may be readily dissolved in a variety of solvents; rubber, even in its uncured state, is relatively unsuited for use in its dissolved form. Pyroxylin is broken down by heat and it yellows badly before its melting point is reached; rubber is thermoplastic and may be kneaded, blended, and spread by the use of heat instead of solvents. These properties, so strikingly different, resulted in such distinct technics and coating fields that the two groups of coaters are to this day represented by different manufacturing associations.

Since the early days of rubber manufacturing, it has been the practice to compound the rubber into sheets of close tolerances and subsequently mold or otherwise utilize them. The rubber calender was worked out to handle this necessary manufacturing stage. It was only natural that the sheets so produced would be combined with fabric to take advantage of both the properties of rubber and of cloth.

With the advent of the war and the loss of our sources of rubber supply, it was immediately necessary to resort to rubber-like plastics which had been virtual laboratory curiosities just a few years before. These plastics—principally the polymers or copolymers of vinyl chloride, vinyl acetate, vinyl butyral, vinylidene chloride, methacrylates, and acrylates—could either be worked up on hot rolls using the rubber technics, or made into high-solid-content solutions that could be knife-spread or roller-coated in a manner similar to pyroxylin solutions.

They lent themselves to immediate conversion either in the rubber plant or the pyroxylin coating plant. But, surprisingly, the results obtained were not the same. The knife spreader, the roll coater, and the calender each used the same materials, coated to the same specifications, and each came up with a different product.

What has caused this difference? Obviously, the machines themselves exerted an effect on the finished product. An evaluation of the machines became necessary, taking into account the first cost, the economy of opera-

Fig. 2. The roll coating machine was designed to coat smooth-surface materials.

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Special tank cars for liquid (50% and 72-73% solution). Solid in 700 lb. drums . . . flake in 125 and 400 lb. drums.

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tion, and the properties of the deposited coating.

KNIFE SPREADER. The machine with by far the lowest first cost is the knife-spreader coating machine, a typical example of which is shown in Fig. 1. In the past, the greatest number of these machines has been used in the coating of pyroxylin artificial leather. In this field, it is a common occurrence to have short runs of many different colors and qualities. A machine was needed that would do a good coating job, yet which could be easily and quickly cleaned. It was necessary to utilize stock dopes that were always kept ready and in coating condition.

The knife spreader fulfills these requirements admirably. The ease and simplicity of its operation has been thoroughly covered (TEXTILE WORLD, March, 1944), but it is perhaps desirable to mention again some of the properties it imparts to its deposited film.

The knife is most suited to the application of light coatings; although by the use of a multiplicity of light coats, the heavy, smooth films necessary in artificial leather manufacture are laid down. It is not uncommon to use as many as twenty passes through a machine to build up the desired film thickness.

The knife spreader is a rugged machine with few moving parts. The upkeep problem is slight, and the replacement of parts is easy and rapid.

GOOD ADHESION. Plastics coated by this method are forced into the pores of the fabric sufficiently to insure good adhesion. In fact, it is often commercial practice to apply a light priming coat by knife to improve the later adhesion of a calendered or roll-coated film.

Plastic solutions suitable for knife spreading may, with few exceptions, be easily compounded or purchased ready for use. Simple, low-priced paddle mixers are the only needed equipment. The mixing is so simple that low-priced, unskilled labor may be used.

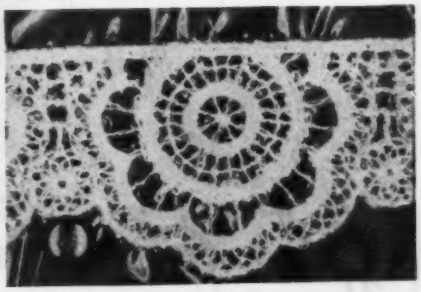
Opposed to these advantages, it may be noted that many passes under the knife are necessary to build up even a moderate film thickness. This is costly in the case of long runs but less so for the shorter runs usually put through this type of machine.

The dope is frequently pressed into the fabric to such an extent that it is hard to get a good, pinhole-free, light coating; and unless a number of coats are applied, the hydrostatic resistance will be low.

A solvent must, of course, be used to make the plastics fluid enough for coating. Unless a recovery system is installed, this solvent is lost and adds to the cost of application. It is true, however, that the solvents generally used are comparatively low in price.

The presence of solvents considerably increases the fire and explosion hazards of coating, and adequate precautions must be observed.

Technologists See Exhibit of FILMS and COATED FABRICS

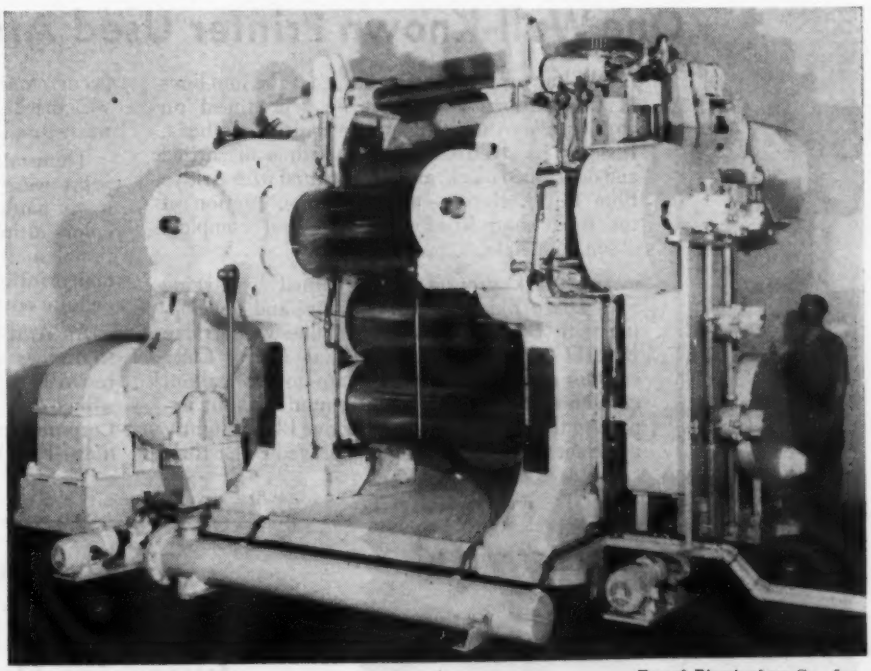


A light-weight, plain-woven fabric, coated with a plastic resin and printed, is shown at left. Schiffli lace (right) illustrates the adaptability of resin films to fine needlework. After the lace has been made, the film base may be dissolved in hot water. These articles were parts of the exhibit of films and coated products shown by Dr. Frederic Dannerth, consulting chemist, at the May meeting of the American Association of Textile Technologists, held in New York, May 2, 1945.

Dr. Dannerth discussed coating-films of cellulose, ethylene, and rubber derivation. He was assisted by Dr. Howard Turner, E. I. du Pont de Nemours & Co., who presented the story of nylon films.

ROLL COATER. The roll coater, as shown in Fig. 2, was first designed to coat paper and other materials lacking sufficient "tooth" for efficient knife spreading. It has a somewhat higher original cost than a knife coater, is more complicated, and requires highly machined rolls that are properly and critically synchronized with the drive.

(*Continued on page 194*)



Farrel-Birmingham Co., Inc.

Fig. 3. The top and middle rolls are heated to work the coating resin into a film of desired thickness. Film contacts fabric passing between middle and bottom rolls.

To Obtain Faithful Reproduction of the Fine Lines One Well-Known Printer Used Aridye* Pigment Colors

A well-known printer was sure that the fine lines of this pattern could not be reproduced on cotton voile by usual discharge printing methods. Instead, he dyed the ground with a diazotized and developed black, and overprinted with Aridye Blue FC2G. Result—an exact reproduction of the fine, sharp-lined engraving and complete absence of halo.

The black ground was obtained by dyeing with Diazo Black BH, diazotizing, and developing with Beta Naphthol. The blue was Aridye Blue FC2G cut 1:9 with regular Aridye Clear containing 4 oz. of sulfoxylate to the gallon, enough to reduce the black ground without impairing the brilliancy of the Aridye Blue. Slightly more set was applied on the engraved roller than is customary for pigment colors. Then, the fabric was dried, padded with peroxide, steam aged, washed, and cured for one minute at 300° F.

Thousands of yards of this attractive overprint were run commercially. It is typical of many patterns that can be printed with Aridye colors although difficult to produce by conventional methods. For day-in-and-day-out dyeing and printing jobs, too, Aridye colors offer you definite advantages.

An Aridye technical service man will be glad to discuss where and how you can benefit from the use of Aridye pigment colors, and advise which are available today. Write to Aridye Corporation—*pioneers in pigment colors for textiles*—Fair Lawn, New Jersey.

*Reg. U. S. Pat. Off.

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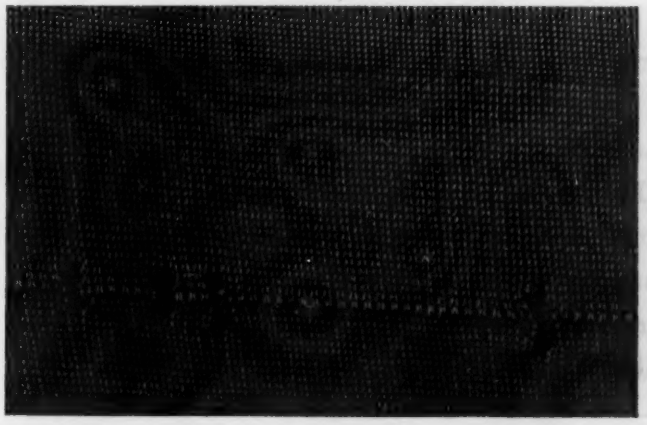
Good KNITTING FIXING Calls for Preventive Steps

HIGHLIGHTS: Defects often reflect faulty machine settings or lack of conditioning the yarn. Some show up more prominently after dyeing than others.

THE KNITTING DEFECTS shown here are examples not only of good-fixer practice, but also of preventive practice. The latter is more important, and a careful study of the suggested remedies shows that in these cases preventive fixing is applicable. The bad-plating defect shown, for example, suggests mechanical adjustments as possible remedies. Its most important suggestion, however—adjusting the tension on the face yarn as near as possible to the finger—is a preventive measure.

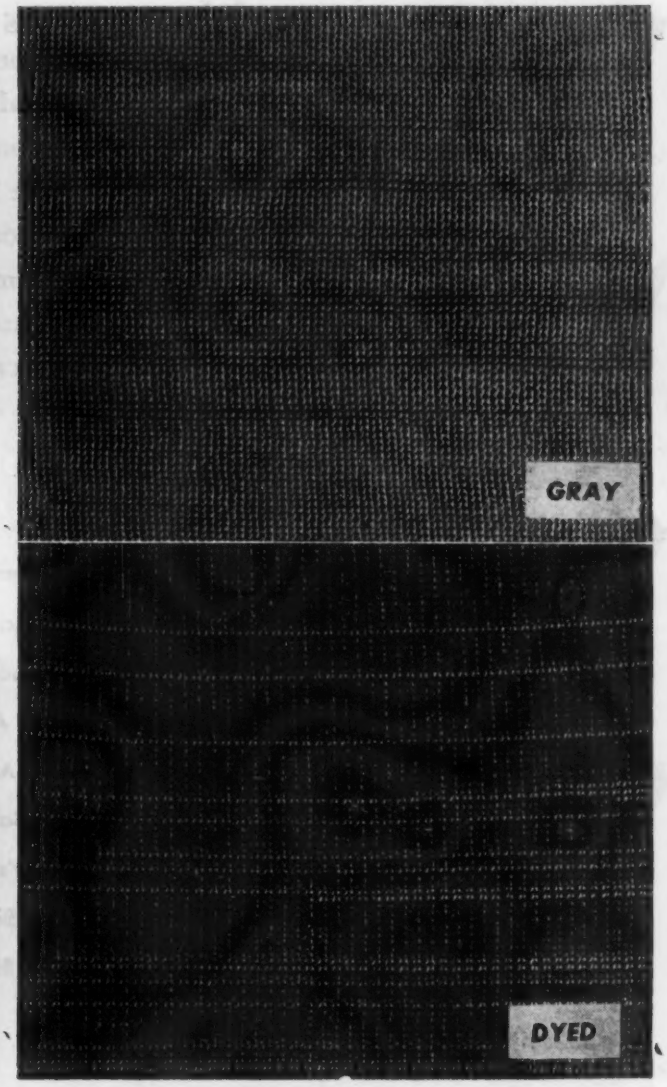


Dropstitch in Looper Course

Appearance: *An open bar along course with holes at intervals.* ***Cause:*** *Yarn finger striking long-butt needles.* ***Remedy:*** *Raise yarn finger high enough to clear long-butt needles.*

Cuts in Narrowings

Appearance: *Hole in sock where heel begins to narrow down.* ***Cause:*** *Yarn too dry and brittle, sinkers not properly adjusted, too much tension on toe and heel yarn, toe and heel stitch uneven.* ***Remedy:*** *Store yarn in humidified room, or rewind through oil—either gives satisfactory results—readjustment of sinkers. Carry just enough tension, no more, on the toe and heel yarn to make the take-up work properly. Stitch cams should be set evenly with a cam gage, so that front and back cams carry the needles down the same distance.*



Bad Plating

Appearance: *Barré effect or marks across sock in direction of courses.* ***Cause:*** *Poor separation of yarns in throat plate. Too much tension on backing yarn and not enough on face yarn. Needles out of line.* ***Remedy:*** *Good separation of yarns is secured by carrying the face yarn finger as near to the needles as possible and adjusting backing yarn finger so that the yarn leads into the corner of the mouthpiece. Carry more tension on face yarn than on backing yarn (tension device on face yarn should be near finger); keep needles in line.*

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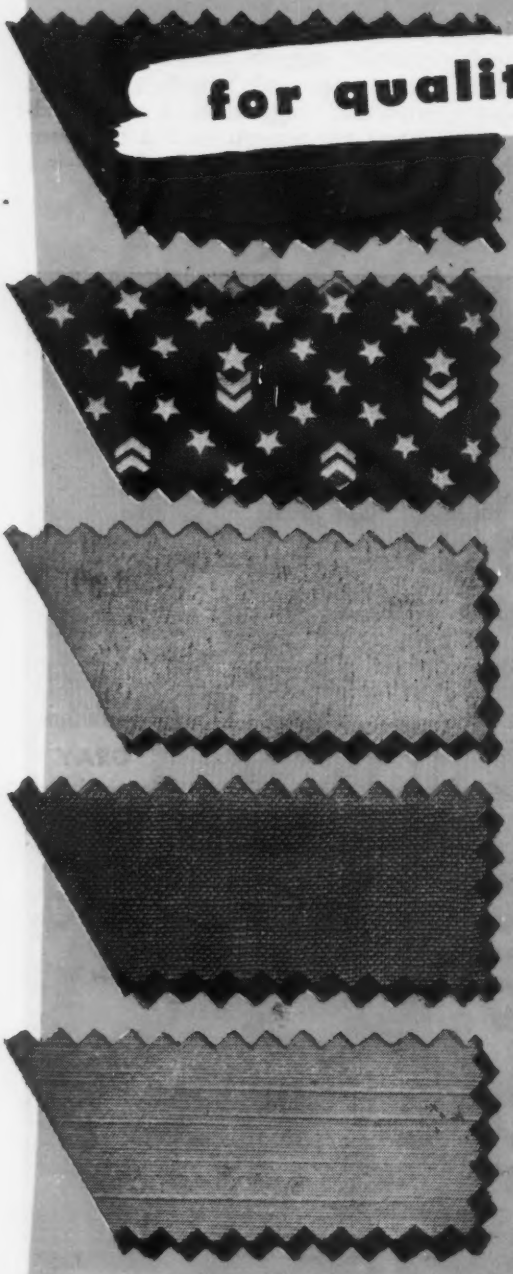

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LOAD-ELONGATION Recorded by New Device

HIGHLIGHTS: Constant rate of elongation tests on fibers and yarns obtained through electronic controls. Present loading capacity under one pound. Improvements may permit loadings of 20 lb. or more.

By HARRY C. BROWN, B. S.*
Assistant Professor of Physics, Lowell Textile Institute

CRIMP DETERMINATIONS in yarns and in fibers, properties of recovery and permanent set in yarns, elongation at break, and other data about yarns may be determined by a chain-loading device constructed by the author. Apparatus which operates in conjunction with the chain-loading device permits electronic plotting in a few seconds a load-elongation curve.

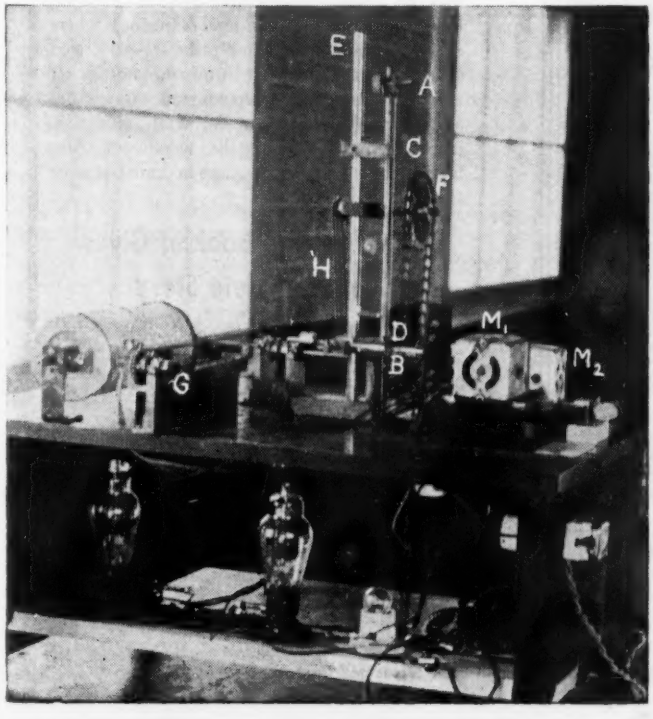
DESCRIPTION OF APPARATUS. This apparatus, shown in the illustration and in a schematic diagram Fig. 1, has the test specimen of yarn or fiber held in a vertical position by two jaws, A and B, which are separated by an initial distance of 10 in. for yarns and by a shorter distance for fibers. A constant rate of elongatoin of the specimen is produced by moving the upper jaw in an upward direction at a speed of 0.65 in. per min. The motion is produced by a small motor M_1 with enclosed reduction gear and a rack and pinion drive. Motor M_1 also turns a recording drum at a constant rate of speed which is proportional to the uniform upward speed of the upper jaw. Change gears set between M_1 and the recording drum provide three different scales of elongation.

The lower jaw, which grips the specimen, is fastened to a balance arm to which is also attached the loading chain. When there is no load on the test specimen, the counterweight on the balance arm keeps it in a horizontal position. When the motion of the upper jaw produces tension in the yarn, the slight upward movement of the balance arm makes an electrical contact in the grid circuit of a thyratron tube, causing motor M_2 to add an amount of chain to the arm equal to the tension in the yarn. If too much chain is added, an electrical contact on the lower side of the arm reverses the motor through a second thyratron. Balance of the arm is thus maintained for all loads.

Motor M_2, which applies the load to the balance arm, also moves a recording pen in a direction parallel to the axis of the recording drum. The pen is moved by a small chain driven by a sprocket wheel on an extension of the shaft of motor M_2. The motion of the pen traces a load-elongation curve of the specimen.

PHOTO SHOWS DETAILS. The actual location of the various parts of the recorder and also many of the details of construction not shown in the schematic diagram are shown in the illustration. The upper jaw A is attached to a vertical ½-in. steel rod which passes through guides in two steel plates, one at C and the other at D, both supported by a larger steel rod E. The rack and pinion which move the steel rod and upper jaw in a vertical

* *Abstract of paper presented in Series 48, No. 2, Bulletin of the Lowell Textile Institute.*



Elongation of a sample under loading by the chainomatic principle is recorded on a chart, the curve being plotted automatically.

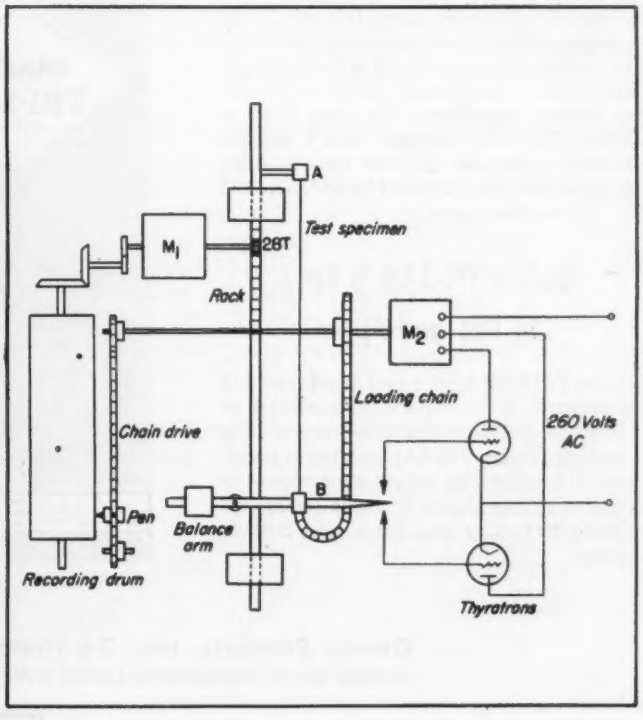


Fig. 1. Schematic diagram of load-elongation recorder shows relationship of essential parts.

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Designed to simplify and increase the effectiveness of plant hygiene procedures, Oakite TRI-SAN is a basically NEW development combining the functions of (1) deodorizing; (2) disinfecting surfaces; and (3) removing light soils from surfaces . . . ALL in ONE material. It may be used practically any place where good housekeeping and sanitation are recognized as a safety precaution that pays dividends in increased employee health protection and in improved working conditions.

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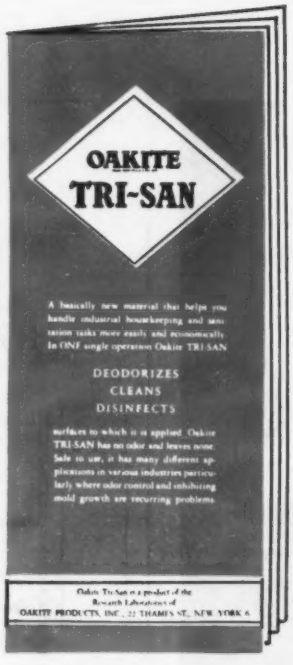
Many advantages accrue from the use of Oakite TRI-SAN. It saves time because it performs its work quickly and with surprising thoroughness. Manhours are conserved because its triple-action on surfaces helps make every sanitation and odor control task easier. And it has the added feature of LOW COST. Oakite TRI-SAN solutions are so economical to use that for most tasks, you obtain a deodorizing, disinfecting and cleaning solution for only ONE CENT a gallon.

WHAT Is Oakite TRI-SAN?

It is a mildly alkaline, free-flowing white powder, completely soluble in water, forming a clear, colorless solution. It contains no hypochlorites or iodine, no caustics, no phenol or mercurial type compounds or heavy metals, no volatile solvents or corrosive ingredients. The safety factor of Oakite TRI-SAN solutions, from a use and handling standpoint, is one of its outstanding features. Solutions of Oakite TRI-SAN have NO odor . . . and leave none.

Oakite TRI-SAN Is Easy to Use and Apply

Oakite TRI-SAN may be used in either cold or warm water. Warm or hot water accelerates its germicidal and odor destroying action. You merely add Oakite TRI-SAN to water in recommended concentration and stir for a moment to dissolve all ingredients. Solutions are applied directly to surfaces with brush, mop, cloth or sponge.



WHERE to Use Oakite TRI-SAN

The triple sanitizing action of Oakite TRI-SAN may be advantageously employed in factories, mills, shops and in various lines of business where odor control and sanitizing tasks are performed daily in connection with plant washrooms, locker and rest rooms, first aid rooms, toilet bowls and seats, urinals, shower stalls, wash fountains, plant cafeterias, floors, walls, woodwork. Also for destroying obnoxious odors in drains, storage areas.

Free 20-page Booklet Gives You Complete Story

This interesting, unique booklet, just off the press, describes the many different applications of Oakite TRI-SAN in various industries. It gives case-histories, formulae and directions for using. Plant executives, safety supervisors and engineers, maintenance superintendents and others will find it a valuable guide to improved plant sanitation. Write for your FREE copy today. It will be mailed promptly upon receipt of your request.

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direction are located below *D*, the rack being held in a slot cut in the rod. The lower jaw is attached to the balance arm at *B*. The balance arm is made of aluminum and is supported by a small steel pin in bearings on plate *D*. The electrical contactors on the right end of the balance arm are distributor points such as used on automobile engines.

The loading chain, which is seen on the sprocket wheel at *F*, is a stud chain weighing 0.086 lb. per ft. A lighter No. 2 ladder chain of 0.044 lb. per ft. and a heavier non-roller chain of 0.20 lb. per ft. are used to give different loading capacities.

Two small motors are seen on the right. The motor M_1, which moves the upper jaw and turns the recording drum, is in front and slightly higher than the other motor M_2, which drives the loading chain and moves the recording pen. A small chain drive at *H* (not shown in the schematic diagram) connects the shaft of M_2 with the shaft of the loading chain sprocket wheel.

The recording pen is mounted on a steel block which moves in a metal guide *G* as the loading chain is applied to the specimen. The recording drum is a wooden cylinder with steel end plates and holds a piece of plotting paper 8½ x 11 in. by means of spring clips. The projecting rim of one of the end plates serves as a guide when aligning the axes of the plotting paper. The shaft of the recording drum passes through hubs in the end plates. By loosening a setscrew in one of the hubs, the drum can be turned freely on the shaft when replacing the plotting paper and when making a zero setting of the pen.

Motor M_1, which drives the upper jaw, is a 110-volt, shunt-wound, d.c. motor with built-in reduction gear giving a speed of one revolution per minute. It is started, reversed, and stopped by a reversing switch in the armature circuit. Motor M_2 is a 110-volt, series-wound, d.c. motor with reduction gear giving 2 revolutions per second.

When a thyratron is used for controlling motor operation, an alternating-current source is essential because the thyratron is deionized at the reversal of the current and the grid regains control of the tube. It is found that the d.c. series motor M_2 in series with a thyratron FG-17 operates satisfactorily with one-half of the field winding on an a.c. source of 60 cycles and 260 volts. A small radio transformer furnishes the motor current of 0.14 amp. A resistor in the secondary circuit reduces the voltage from 350 to 260 volts.

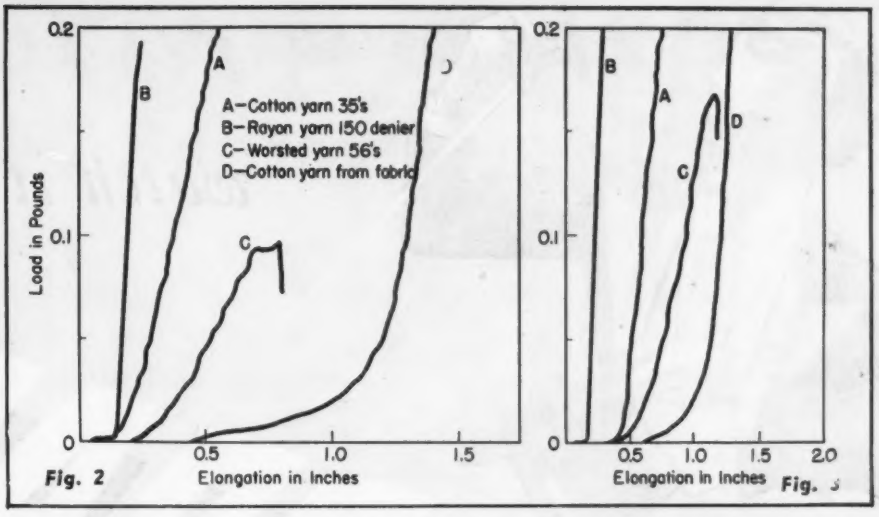

Fig. 2. Load-elongation curve drawn by the recorder—tests made on cotton, rayon, and worsted yarn. Fig. 3. Load-elongation curve made on the same yarns as used in Fig. 2, but the elongation scale is one-half that of the scale used in the previous chart.

With balance arm in horizontal position and both contacts open, a negative voltage of 20 v. is applied to the grids of both thyratrons, and no current flows. When specimen tension operates the contactor on the balance arm, voltage on grid of corresponding thyratron is reduce to zero.

RESULTS OF TESTS. Load-elongation curves drawn by the recorder are shown in Figs. 2 and 3. *A*, *B*, and *C* are curves for three yarns of approximately the same diameter and length per pound but of different materials. The yarns used in obtaining *A*, *B*, and *C* were a 35s cotton, a 150-den. rayon, and a 56s worsted, respectively. In both figures, curve *C* clearly shows the slipping of the fibers near the breaking point and the sudden decrease in load at the instant of breaking. *D* is a curve obtained from a cotton yarn which was removed from a woven fabric. The greater elongation of *D* compared with the others is due to crimp placed in the yarn during the weaving process. The actual amount of crimp in the test specimen can be found by producing the upper straight portion of the curve back to the horizontal elongation axis. The intersection on the axis gives the crimp in inches. The same kinds of yarn were used to obtain Fig. 3, but the elongation scale is one-half that of Fig. 2.

A slight waviness in some of the plotted curves is possibly due to friction in the loading chain links. Some variations in the load-elongation curve are undoubtedly due to inherent characteristics of the specimen. The rayon yarn which contains a very uniform arrangement of filaments gives the smoothest and straightest curve of any of the specimens.

When curves such as *B* make a large angle of inclination with the horizontal axis, it is important to determine whether the rate of elongation has been too high for the maximum rate of load application. In this case, the motor is unable to supply sufficient load to break the contact and hence the load-elongation diagram is incorrect. The maximum angle of inclination which can be plotted is obtained by holding the upper contact in a closed position while the drum is turning and allowing the pen to draw a straight line on the plotting paper. When this angle is approached with a test specimen, the rate of loading must be increased by using a heavier chain or the rate of elongation must be decreased.

IMPROVEMENTS. Minor changes in the design of the apparatus are in progress to increase the loading capacity to one pound. An automatic reversing and stop motion is being added to reverse the direction of motion of the upper jaw and return it to its zero position.

In an earlier design of the apparatus, the entire motor current passed through the balance arm contactors. Placing the contactors in the grid circuits of thyratrons greatly improved the sensitivity of the apparatus, and now it is intended to further increase the sensitivity by connecting two vacuum tubes in the grid circuits of the thyratrons and to connect the balance arm contactors in the grid circuits of the vacuum tubes.

There is no apparent reason why the capacity of the apparatus cannot be increased to 20 lb. or more, using a compound lever, without using an excessive amount of chain for loading.

watch it work!

QUADRAFOS*

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DETERGENT
DISPERSING AGENT · WATER CONDITIONER

QUADRAFOS (Sodium Tetraphosphate — $Na_6P_4O_{13}$) the special assistant for textile wet finishing, has unusual detergent properties . . . removes calcium and magnesium soaps without precipitation . . . emulsifies oils and greases . . . produces clear, clean goods for more efficient bleaching and dyeing. QUADRAFOS eliminates problems due to hard water, dissolved iron or other metallic impurities. As a dispersing agent, its remarkable penetrating and leveling properties contribute greatly to the successful dyeing of wool, cotton, and rayon, and are of particular value with those "off-shade" colors which are difficult to dissolve and sensitive to traces of calcium contamination.

QUADRAFOS is available for immediate delivery by leading distributors in principal cities. For technical information and samples, write to Rumford Chemical Works.

QUADRAFOS GRANULAR

A white, free-flowing powder . . . Dissolves readily in either hot or cold water and may be added direct to the processing operation.

QUADRAFOS BEADS

Recommended for the preparation of stock solutions. . . Easily scooped or poured from bulk containers . . . Also available in handy cotton dissolver bags.

Manufacturers

RUMFORD CHEMICAL WORKS

11 NEWMAN AVE., RUMFORD 16, RHODE ISLAND

PRODUCTION BOARD
Controls 200 Botany Yarn Items

HIGHLIGHTS: Visual record of work in process, to be done, delivery date, etc., gives department manager quick check on his position. Danger spots, deficiencies, etc., are evident for early correction. For numerous purposes takes place of hidden files.

WHAT COLOR, what type of yarn, how many pounds were ordered, when must it be shipped, how long will it take to match the color to the original? Try keeping track of all these details for over 200 items and you are faced with the same problems that beset the Top & Yarn Mfg. Division of Botany Worsted Mills, Passaic, N. J. That division was often behind the eight-ball before three visual control-charts, known as Produc-Trol boards, were put in use.

Although today most of Botany's products go to the armed forces, it still maintains the Top & Yarn Mfg. Division devoted to production of hand-knitting yarns. Despite necessary curtailment in the class of civilian goods, Botany finds these yarn operations so multiplex that accurate control through detailed record-keeping was almost impossible until the visual system of control boards was introduced in the plant.

These yarns are dyed in the top and that process cannot be started until a test dyeing has been OK'd. Some colors involve more time in the color-matching stage than others. Various grades of wool are used. Amount of orders vary, and so does the time it takes to fill them. With these many variables, Botany was involved in the uncertainties of numerous filed records until visual control charts were adopted. These charts show graphically to the management what orders are on hand, where the order stands in the course of completion, and when it may be expected to be shipped. Danger signals may be spotted, such as inadequate time for color-matching, shortage of materials, shipments that should already have gone out, etc. The complete picture is at once available without spending hours to coordinate the facts found in hidden records.

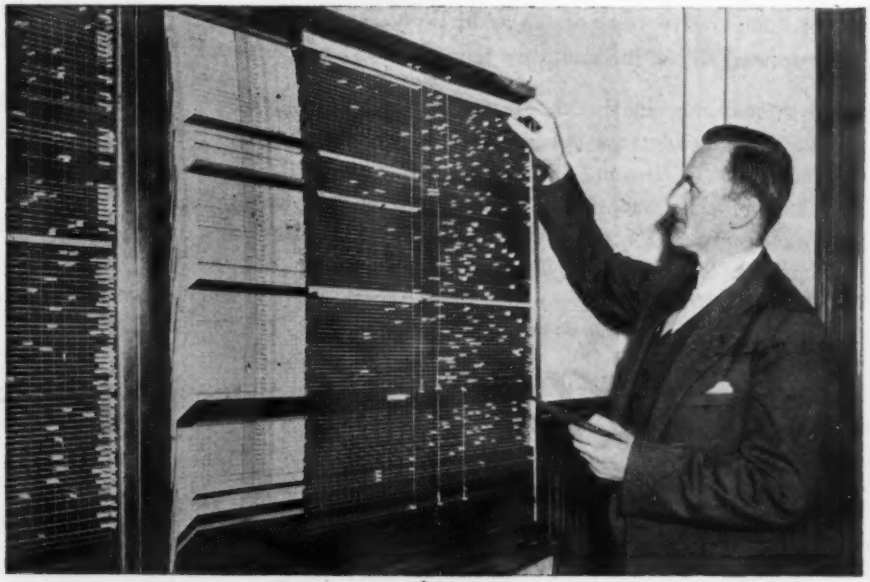
CONTROL BOARD SYSTEM. The control board is about 3½ x 8 ft. It is punched with some 20,000 holes into which representative colored plastic pegs may be plugged. At the left of each board is a vertical bank of record cards on which is posted all permanent information concerning each order. Clerical record-keeping is thus reduced to a minimum.

The Produc-Trol board itself may be utilized for numerous purposes such as purchasing, inventory control, machine load, production scheduling, etc. Botany has adapted it to the situation in the Top & Yarn Mfg. Division. Each vertical line represents a week. Each horizontal line represents a specific order, let us say 500 lb. of Gilgora emerald green. A vertical blue string, always placed directly over the current week, represents "Today's Line." A yellow vertical string indicates the date on which yarns should go into the first process of manufacture to be available "Today."

A numbered white peg, attached to a white tape line drawn from a spring at the far left of the board and pulled out horizontally, shows the extent of time to fill an order from the starting date. A plain white peg means an order on which OK has not yet been received from the matching department. A round pink peg shows an order approved for manufacture. A yellow peg indicates when the material has been released for manufacture. A square blue peg shows the amount of yarn delivered. A square red peg—a "danger signal"—calls attention to danger spots. On the right end of the board three long pegs indicate: red, out of stock on this yarn; yellow, running out of stock; blue, special case, refer back to the order card.

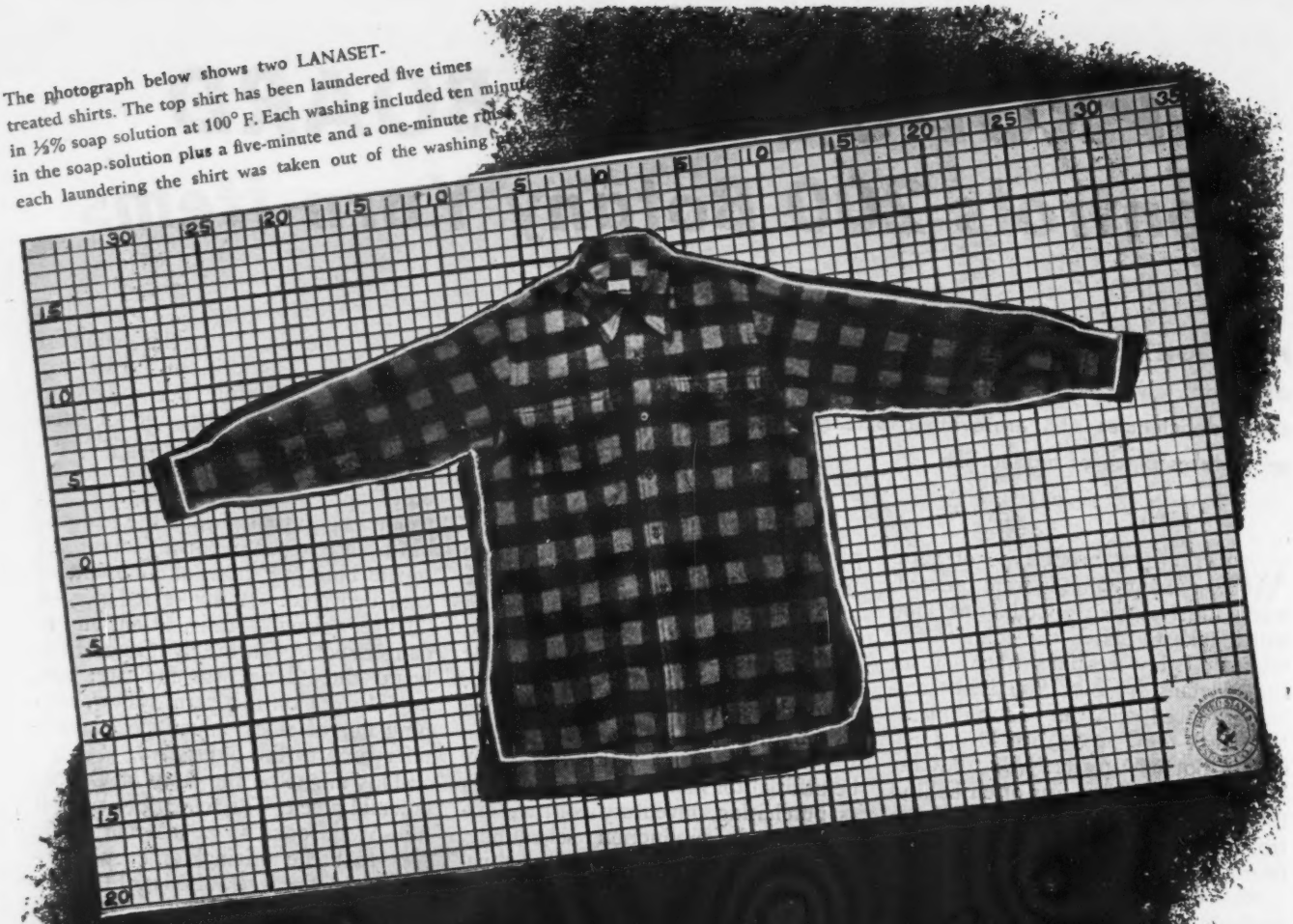
This might be the story of Gilgora emerald green: The manager, at about mid-April, looks up at his chart. He sees that the original order was approved on the week of Mar. 14. The test dyeing was OK'd during the week of Apr. 1, and the top was put into process the same week. Shipment of the yarn is to be made in the second week of May, but the dyeing department is running out of top. He will have to check and reorder by the last week in April if schedules are to be met.

There, at a glance, is the condition in which he finds his order for 500 lbs. of Gilgora emerald green on the then-current date.



Wesley Nehring, Top & Yarn Mfg. Division, Botany Worsted Mills, plugs in current information on one of three Produc-Trol boards in his department.

The photograph below shows two LANASET-treated shirts. The top shirt has been laundered five times in ½% soap solution at 100° F. Each washing included ten minute[s] in the soap-solution plus a five-minute and a one-minute rins[e]. each laundering the shirt was taken out of the washing [machine]



U. S. TESTING COMPANY REPORTS ON Lanaset

New "washability" for wool s[hrinkage] with LANASET*, the new produ[ct] shrinkage — is clearly indicated b[y] by the U.S. Testing Company und[er] on January 5, 1945.

After comparative tests of LANASET-p[rocessed] unprocessed shirts, the company report[s]:

"It is quite apparent that the treated shirt re[sists] age in laundering to a much greater extent th[an] the untreated garment. The average shrinkage [of] untreated shirt was 10.74% compared to an [average] shrinkage of 3.18% for the treated shirt. This [low] shrinkage is extremely low for woolen fabrics [in]

...nd we con-
...ting good
...ctions."
...for
...ful-

Lanaset FOR [WOOL SHRINKAGE CONTROL THAT IS TRUE] WOOL BREATHE

*LANASET is American [Cyanamid's] trade-mark for its wool shrinkage. The pro[cess] ...rolling wool ...ent No. 22,566.

COTTON COMBING Quality Not Consistent With Cost

HIGHLIGHTS: American long-piecing comber gets more production at less cost. Combed yarn requires fewer preparatory processes. Quality of yarn is increased by the elimination of neps. Mill costs vary with pre-comber processes. Sliver and noils are analyzed by fiber-array method.

By E. H. HELLIWELL and H. J. BALL

THERE ARE TWO general types of cotton combers now in use in this country. The Heilman, or short-piecing comber, of which the earlier Whitin models C, D, and D2 are examples; and the long-piecing comber, which is usually called the Alsatian (Gegauft) or Nasmith type. Examples of the latter type are the Whitin models E, D3, and D4; the Saco-Lowell comber; and the original two-sided Tunstall comber. English and Continental makes of both types are built by several foreign machine builders.

American-made combers are designed to meet the domestic demands for good quality, lower waste extraction, increased production, and decreased labor cost. Present practice strongly favors the long-piecing type of comber. This type, with the many refinements added by American builders, delivers a sliver which is more uniform per unit length, brighter, smoother, and of lower nep content. Other factors favoring this type of comber are higher production per machine and per operator, lower labor and maintenance costs, closer control of the percentage of waste extraction, and a reduced amount of long fiber in the noil.

LABOR COST COMPARISON

Mill Number	1	2	3	4	5	6	7	8
Yarn Number	12	20	30	40	40	60	80	116
Hank Roving	2.25	3.00	6.50	7.50	5.50	12.00	15.50	20.00
Staple cotton	1 1/8	1 1/32	1 1/8	1 3/16	1 1/8	1 1/4	1 3/8	1 7/16
Gr. card sliver	44	52	44	44	52	44	35	35
Pre-Drawing								
Ends up to back	....	.....	....	.....	8	....	....	.....
Gr. del. sliver	....	.....	....	.....	44	....	....	.....
Lb. per hr.	....	.....	....	.....	12	....	....	.....
Del. per operator	....	.....	....	.....	30	....	....	.....
Labor cost per lb.	....	.....	....	.....	.167¢	....	....	.....
Sliver Lapper								
Ends up to back	20	20	20	20	20	20	20	20
Gr. sliver lap	550	700	550	500	860	450	450	450
Lb. per hr.	126	386	156	156	260	126	126	126
Heads per operator	4	2	4	4	4	4	4	4
Labor cost per lb.	.096¢	.078¢	.096¢	.096¢	.064¢	.119¢	.119¢	.119¢
Ribbon Lapper								
Laps up to back	....	6	4	.....	....	4	4	4
Gr. ribbon lap	....	735	550	.....	....	550	450	450
Lb. per hr.	....	285	148	.....	....	148	121	121
Heads per operator	....	2	4	.....	....	4	4	4
Labor cost per lb.	....	.089¢	.102¢	.....	....	.102¢	.125¢	.125¢
Total Lap Preparation	.096¢	.167¢	.198¢	.096¢	.231¢	.221¢	.244¢	.244¢
Comber								
Type	S.P.	L.P.	S.P.	S.P.	L.P.	L.P.	L.P.	L.P.
Nips per min.	120	100	100	100	100	90	90	90
Heads per machine	8	8	8	8	12	6	6	6
Machines per operator	8	8	8	8	6	8	8	8
Gr. sliver	60	55	60	60	55	45	45	45
Percent waste	16	15	20	20	16	22	27	27
Lb. per mach. per hr.	12.2	23	12.2	12.2	46.5	8	8	8
Labor cost per lb.	.640¢	.326¢	.640¢	.640¢	.246¢	.977¢	.977¢	.977¢
Summary Direct Labor Cost per Lb.								
Pre-drawing	....	.....	....	.....	.167¢	....	....	.....
Sliver Lapper	.096¢	.078¢	.096¢	.096¢	.064¢	.119¢	.119¢	.119¢
Ribbon Lapper	....	.089¢	.102¢	.....	....	.102¢	.125¢	.125¢
Comber	.640¢	.326¢	.640¢	.640¢	.246¢	.977¢	.977¢	.977¢
Total	.736¢	.493¢	.838¢	.736¢	.477¢	1.198¢	1.221¢	1.221¢

S.P.—Short-piecing comber. L.P.—Long-piecing comber.

Fig. 1. Combed-yarn mills show varied lap-preparatory processes and costs.

IMPROVEMENTS NEEDED. Close observers of comber development in this country give American builders much credit for improvements they have made in operation and maintenance, but the general opinion in the comber field is that there are two very evident improvements yet to be made.

One is a further reduction in the amount of good fiber in the extracted noil. Fiber arrays from noils extracted from long-staple cottons show 20% to 25% good, spinnable fiber of 1 in. or more in length. The other improvement suggested is a reduction in preparatory processes between the card and comber.

One machine builder has eliminated the ribbon lapper by substituting a draw frame between the card and sliver lapper. While this practice of omission and substitution has its advocates and opponents, the apparent results are satisfactory. It has been suggested by several comber men that the addition of one row of drawing rolls to the sliver-lapper draw-box would substitute for the draw frame and yield a lap of

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19

equal quality directly from the card sliver. The theory behind this suggestion depends, of course, upon increasing the total draft of the sliver lapper and the weight of the card slivers fed.

PRESENT TREND. Higher card-doffer speeds and reduced card waste seem to be the modern trends on medium-quality combed work. Mills once ran their doffers 5 to 6 r.p.m., removed 9% waste, and delivered a card sliver of 10 to 12 neps per gr. They now run their doffers from 8 to 10 r.p.m. and remove 6% waste at only a slight increase in nep count. Waste tests have shown that this waste reduction is mainly in flat strips. Fiber arrays of strips showed that the reduction was due to a lessened amount of good spinnable fiber in the strips. Yarn made from sliver run at these increased doffer speeds showed no loss in strength or appearance. All of this adds up to the fact that the card is not as efficient as the comber in removing neps and does not possess the same fiber-selection control. For these reasons, it appears profitable to have the card remove only the heavier trash and to depend more on the comber for nep removal.

Modern comber laps weigh 700 to 900 gr. per yd. and are run at a speed of about 100 nips per min. There are certain virtues in a heavy lap, providing its entire width is a smooth, even sheet which is free of hard sliver cores.

Some practical comber men, however, question the wisdom of a number of modern comber practices. They are of the opinion that the elimination of the ribbon lapper as a preparatory process results in a ridgy lap which does not permit an even grip of the comber nippers. This causes the nippers to pluck, which increases the amount of long fiber in the noils and damages the quality of the comber product.

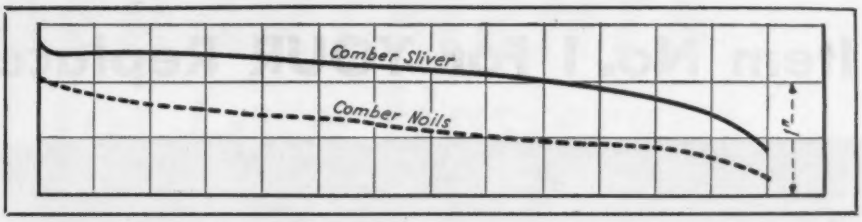


Fig. 2. Fiber array graphically outlines the fiber length of combed sliver and noils.

ANALYSIS OF FIBER ARRAY

	Comber sliver	Noils
Classified length	1–1/8 in.	
Maximum length	1–5/16 in.	1 in. plus
Mean length	1.03 in.	.59 in.
Fibers 1–1/8 in. or longer	40%	0
Fibers 1 in. to 1–1/8 in.	24%	1%
Fibers 3/4 in. to 1 in.	25%	19%
Fibers 1/2 to 3/4 in.	8%	46%
Fibers below 1/2 in.	3%	34%

Fig. 3. Analysis of fiber array offers a practical method of determining comber efficiency.

Another point questioned by many men with comber experience is the use of a heavy lap. They state that the use of a heavy lap on the long-piecing type of comber prevents the top comb from acting effectively in combing the tail ends, and that the use of a lighter lap on the short-piecing comber permits a better penetration of the top comb.

PREPARATION COST. A study of the cost of comber operation by a number of plants using the machines shows several interesting features. The most noticeable is the different methods of preparing the laps for combing. As already stated, the present trend in this country is toward the elimination of ribbon lappers.

The following different methods are used in lap preparation:

(1) Card sliver to sliver lapper to comber.

(2) Card sliver to one-process drawing to sliver lapper to comber.

(3) Card sliver to sliver lapper to ribbon lapper to comber.

In the table of labor cost comparison (Fig. 1), only the direct labor cost is given on each process. These figures are from actual operating organizations, and it should be noted that those showing the lower costs per pound on comparative yarn numbers

(*Continued on page 204*)

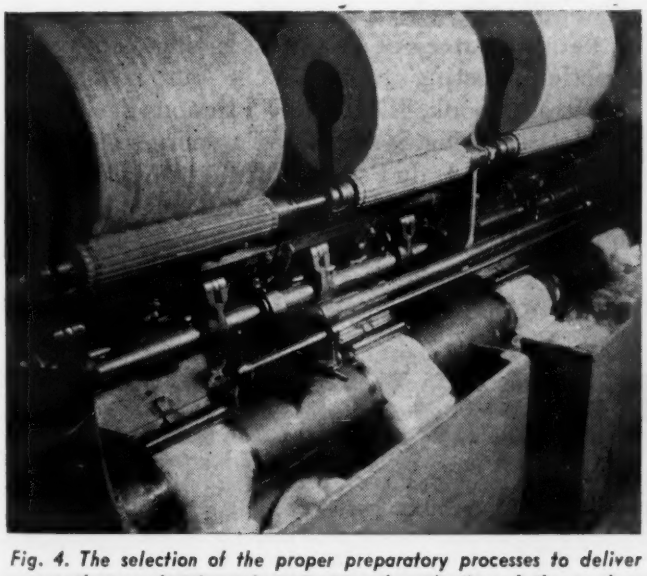


Fig. 4. The selection of the proper preparatory processes to deliver a smooth, even lap is as important as the selection of the comber.

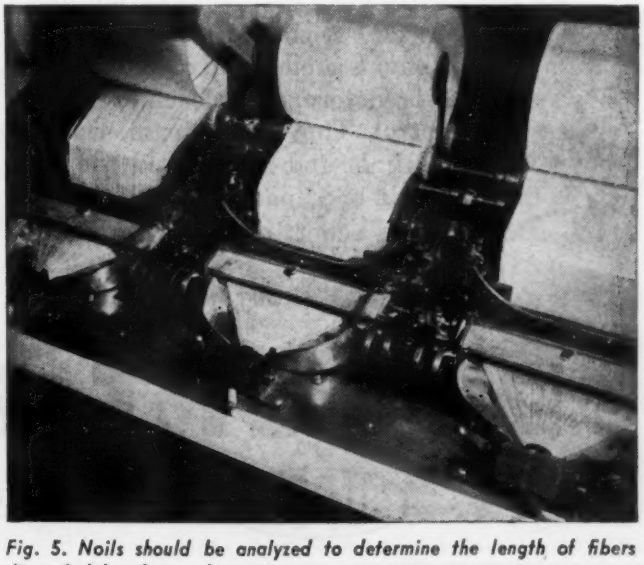
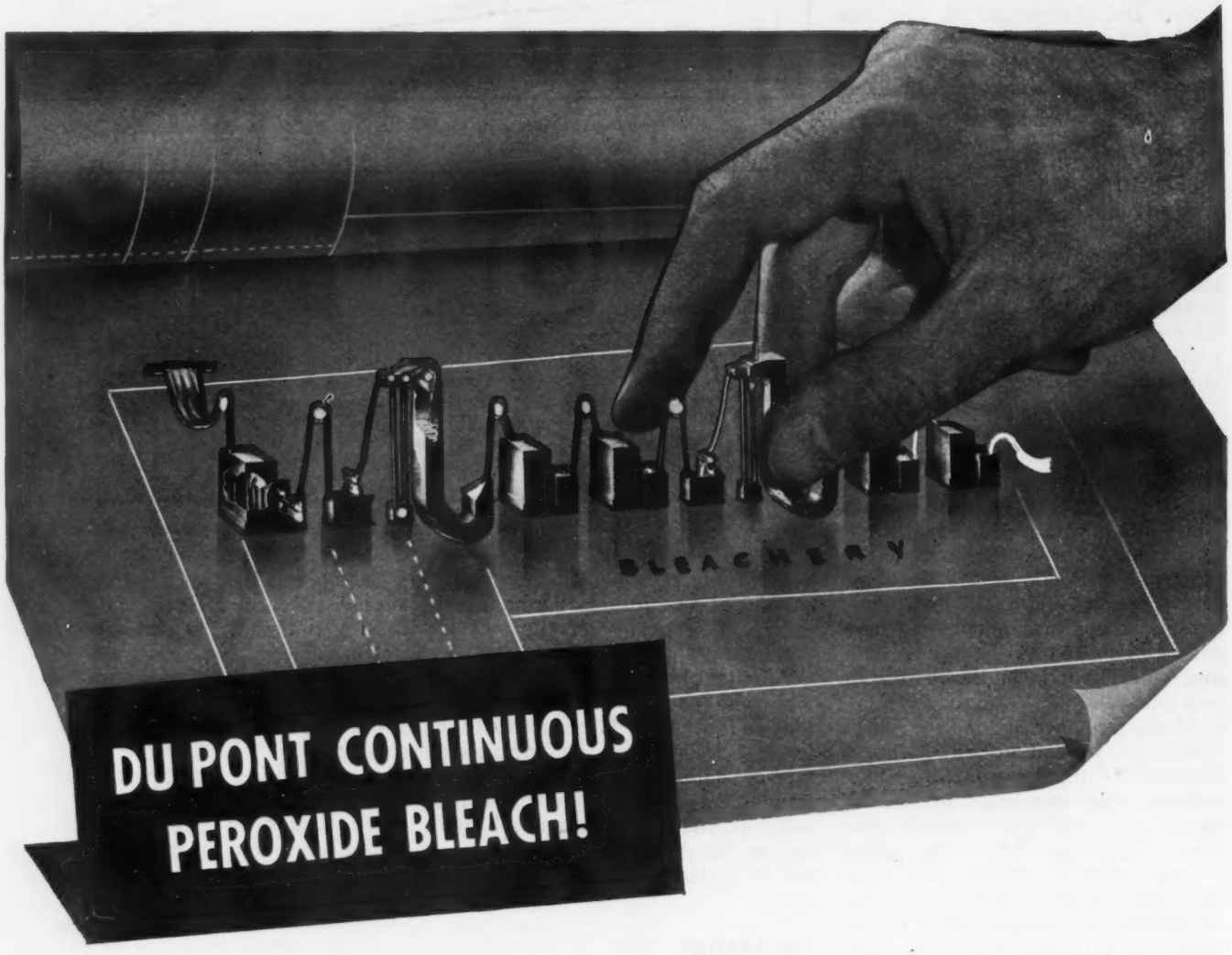


Fig. 5. Noils should be analyzed to determine the length of fibers discarded by the comber. *Photo by Coxe Studios, Greenville, S. C.*

Item No. 1 For YOUR Replacement Program



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SEWING DEPARTMENTS
Started for Lace Hosiery

HIGHLIGHTS: Shortages of yarn are reason for action by some full-fashioned mills. Rayon is conserved for welts and feet. Production-line technique used.

By I. G. SANFORD

WITH THE PRESENT SHORTAGE of yarn for their regular lines, some full-fashioned hosiery concerns are for the first time installing sewing departments for the production of cut-and-sewn hosiery. Even here, however, their production is limited, largely by the availability of the cotton Levers lace used for the leg.

For some time, full-fashioned knitters have been conserving available rayon yarn and preparing for summer styles by production of mesh hosiery, which is not to be confused with their production of cut-and-sewn lace hosiery described here.

For the lace product, the principal operations for the plants are those of cutting and sewing, with emphasis on the latter. Looper and seamer operators, who might otherwise have to be released, can quickly be taught the sewing operations. This is aided by the fact that sewing standards are no stricter than the looping and seaming operations and that, on the whole, quality standards for lace hosiery are not now so high as formerly.

SETTING-UP. The principal job is that of setting up a department and then training operators. For the hose shown in the illustration, the set up involved full-fashioned machines and circular knitting machines in addition to arrangements for securing the lace and laying out the actual sewing department.

The welts were manufactured from 100/40 viscose rayon on full-fashioned machines which might otherwise have been idle. During this operation, turn marks were knit into the fabric, the welts were turned, and about ½ in. of afterwelt was run.

The feet were knit of 100/40 rayon as fabric on a circular hosiery machine that otherwise would have been idle, but can also be knit on any circular machine of a suitable gage. Some manufacturers knit the feet as feet on half-hose machines, one right after the other; but such was not the case with the particular stocking illustrated.

Lace is cut to fit the leg; its design facilitates conformation to the contours of the leg.

The parts to be sewn together to make the stocking sometimes include a foot different from the one shown. Note that the welt was produced (turned) on a full-fashioned machine.

Both welts and feet are dyed before being cut up and sewn into the final stocking, as is the lace. Colors can blend (as do top and leg shown) or can contrast (as do leg and foot).

The lace for the legs is laid on a cutting table and cut out with an electric cutter much as is other fabric. However, the finish of the lace plays an important part in the ease with which it can be laid and cut—as well as how it can be sewn.

Circular-knit fabric for the feet is cut in much the same manner; but when formed feet from a circular hosiery machine are used, the undivided feet are merely cut apart either by the girl who sews them into the stocking or by a separate operator whose duty it is to keep the sewers supplied.

SEWING. For most efficient operation, a kind of production line is set up in which the first operator sews the welt to the top of the leg blank. The work then goes to another operator who sews both halves of the feet into the other end of the leg blank.

In the sample shown, the two halves of the foot fabric have been seamed before being sewn to the lace. This is done in a separate operation; and, accordingly, the feet supplied can be readily interchanged with formed feet from a half-hose machine.

The leg blank and feet have been so cut as to match with a little overhanging of the lace. The lace is folded over the edge of the foot fabric as the two components are fed into the sewing machine. The overhang is greater at the top of the heel; and, in a separate operation, a little of the foot fabric is folded over during sewing at this critical point.

Naturally, it is important that the edge of the lace be well bound in and that the edge of the knitted fabric has no gaps nor unsightly bulky places due to excess fabric or carelessness in folding.

The final operation is seaming which starts at the heel and ends with the welt, much as with regular full-fashioned hosiery. An exception, however, is that more care must be taken while seaming where the welt joins the leg. At this point, due to the previous sewing operation, the fabric is quite bulky and may cause trouble for the operators.

Although a number of full-fashioned mills are now doing this type of work for the first time, they are not generally publicizing the fact and are marketing their product under names that do not reveal the manufacturers.

You should have seen these buildings before they got their Waterfoil "Raincoats"

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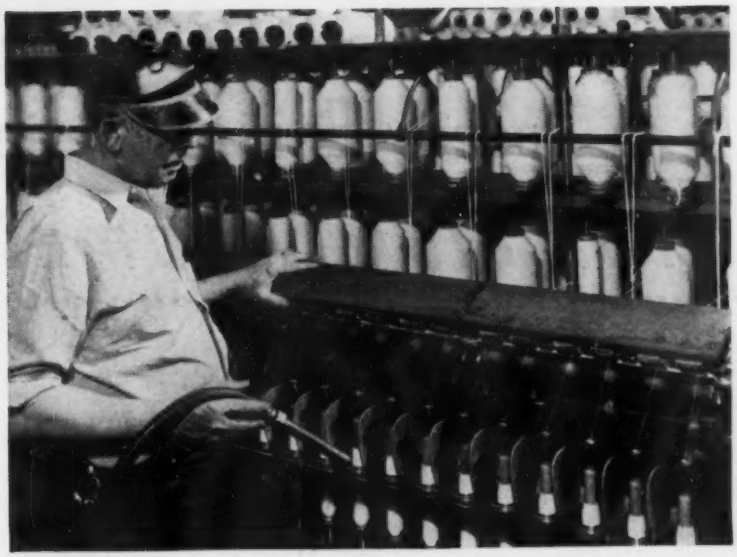
A HORN PRODUCT

CLEANERS and OILERS Can Be Assigned Schedules



Some mills use air hose, others vacuum system in cleaning spinning frames.

HIGHLIGHTS: A detailed study of the work to be done permits placing indirect jobs on an efficient basis. Help is more easily assigned.

By F. H. GUNTHER and MARCUS GROSS

IN THE SPINNING DEPARTMENT, the emphasis is put on spinning and doffing. The relative importance of cleaning and oiling is recognized but is given a minor status by being variously classified as semi-skilled and unskilled work. Cleaning and oiling are important functions and therefore, should not be relegated to the obscure "indirect-labor" classification and then forgotten. Quality of production is almost entirely dependent upon good oiling and good cleaning.

Indirect labor costs, of which cleaning and oiling are a part, fluctuate and are sometimes difficult to control. For this reason, the overseer of the spinning department should have carefully charted schedules embodying all the cleaning and oiling details, plus time-study analyses of these operations. The use of such schedules enables the overseer quickly to allot a work load.

Cleaning invariably includes sweeping, wiping rails, and other operations. Some mills use an air hose to clean frames, while other mills use the vacuum method.

OILING. Oiling the rolls and spindles requires constant attention. Rolls should be oiled immediately after they are picked, and careful consideration should be paid to the saddle-bearing points on the neck of the rolls. If the openings in the saddles are plugged with lint or any foreign substance, they can easily be cleaned with a short piece of wire attached to a handle. If possible, never let rolls run dry for a

TASK OF CLEANER AND OILER

Mary Smith — North Section — 40 Frames

Operation	Unit Time per Frame in Min.	Total Min. for all Frames						Total Unit Time (Min.) per 40 hr.	Remarks
		Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.		
Wipe ladders	*								
Wipe base rail & bases	*								
Clean pulley end	*								
Blow frames	6				150		90	150	25 Frames Thurs. 15 Frames Sat.
Top roll oiling	10		200	200				400	20 Frames Tues. 20 Frames Wed.
Oil spindles	12	240				280		480	20 Frames Mon. 20 Frames Fri.
Sweep under frames	3	120	120	120	120	120		600	
Sweep all sides	1.5	60	60	60	60	60		300	40 Frames Daily
Oil joints	1.5					60			
Clean window sills					30			30	Allotted time
Clean spare floor	*								
Pick up waste		15	15	15	15	15	15	75	Sweepings
Sort waste					70			70	Clearer-scavenger & roving waste
Misc.									
Total min. worked per day		435	395	395	445	435	225		
Total min. in 8 hr.		480	480	480	480	480			
Total min. worked in 40 hr.								2105	
Eff.	90%								
Rest	10%								

*Done by other cleaners

2160 min. of work per week (2400 less 10% rest)
2105 min. of work expected
55 min. under

This detailed study of a cleaner-oiler's job can serve as a model for other indirect jobs.

There is More Reason Today Than Ever Before to Specify Benjamin Lighting Units with *Porcelain Enamel Reflectors!*

The many important advancements made in all types of reflector finishes have left unchanged the 3 BIG REASONS for Porcelain Enamel's TOP RATING!

Advancements in porcelain enameling make possible lighting reflectors with even greater resistance to weather, chipping, acids, thermal shock, etc. However, while these advancements give added reason for its specification, basically the reasons for its TOP RATING remain the same. They are:

1. DURABILITY

TOP RATING in durability goes to porcelain enamel. Reason: porcelain enamel is an inorganic finish, being literally rock fused on steel. Hence, unlike organic finishes, porcelain enamel is *not subject* to oxidation and deterioration from the effects of time, heat, sunlight and atmospheric conditions.

2. REFLECTIVITY

TOP RATING, here, because with porcelain enamel you get a lighting unit which not only has a light diffusing reflection factor of 80% or more, but also one that will retain this efficiency for a *life-time*. For, although the better organic finishes now possess initial qualities of reflectivity the equal of porcelain enamel, only porcelain enamel has been so completely time tested. Years and years of service experience prove that porcelain enamel retains its light reflecting qualities throughout a life time of service without appreciable loss.

3. CLEANABILITY

TOP RATING goes to porcelain enamel. Because its dense, glass hard surface prevents dirt and oils from becoming embedded . . . because of its extreme resistance to scratches, marring, chipping . . . because it cannot oxidize or corrode . . . porcelain enamel surfaces are the most easily cleaned; require only soap and water washing.

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Remember: For Durability . . Reflectivity . . Cleanability . . *Specify*

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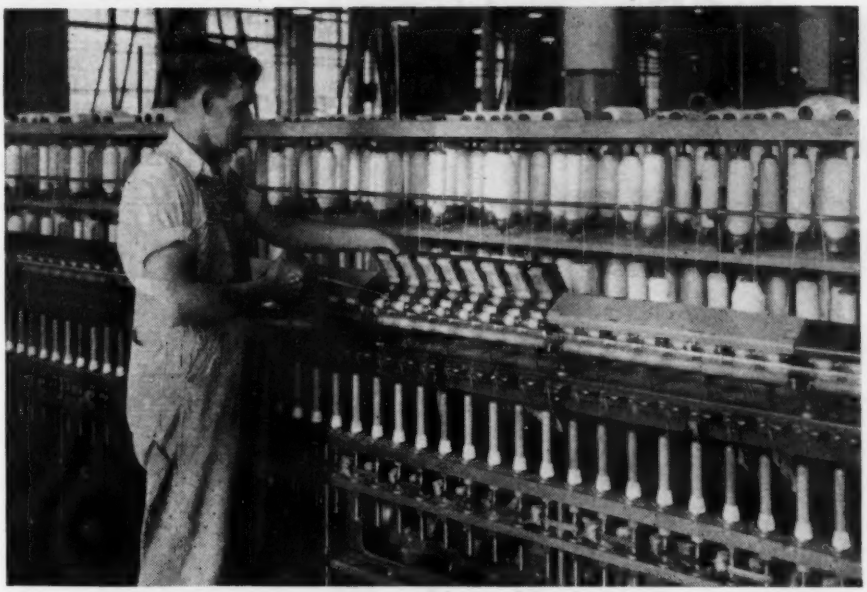


Oiling saddle-bearing points on neck of rolls is important in maintaining spinning frame in prime condition.

single moment. The bearing point of the saddle held against the neck of the roll, if dry, induces friction heat and wears away the base of the saddle-bearing points and the neck of the roll and makes them soon unfit for use.

"Freezing" of the spindle in the bolster is due to lack of oil. Most spindles seek their own "center" at high speed; and to maintain them without variation in trueness, the spindle must rotate constantly in oil. So much depends on careful oiling that complete scheduling is absolutely necessary.

SCHEDULE. In the schedule shown in illustration; the time-element of all duties is the starting point in ascertaining the cleaner's or oiler's task. In the first column under "operation" are listed all cleaning and oiling operations, plus totals, etc. In the second column, under "unit time per frame," are listed the unit times, actual and prorated. For example: opposite the operation "oil spindles" is listed the unit time for one frame, 12 min. This is actual time. Opposite operation "sweep all aisles" is listed the unit time for one frame, 1.5 min. This is prorated time. There are 40 frames in this section, it actually takes the cleaner and oiler 1 hr. to sweep all aisles, once daily; therefore, prorated time for one frame equals 1.5 min.

The daily task and actual work accomplished are rated in the Monday's through Saturday's columns. In the final determination of the task, Saturday totals are not included because the task is based on 40 hr. (5 days). This schedule is figurative only and represents no particular cleaner and oiler tasks. Any overseer of spinning can make a similar chart to suit his own needs.

The total working minutes of the week, of course, should not exceed the rated efficiency. Thus rest allowance of 10% means that 240 min. are subtracted from 2400 min. (40 hr.). The remainder, 2160 min., is the time allotted to be actually worked in the 40-hr. period. A chart of similar type should always include whatever rest period is allowed to facilitate the determination of the work load.

Cleaners and oilers should be trained to follow a definite pattern daily and the importance of their task impressed upon them.

Opens New RESEARCH Laboratory

HIGHLIGHTS: U. S. Finishing Co. sets up laboratory in Providence for research. Independent of plant laboratories. Will have staff of 12 persons.

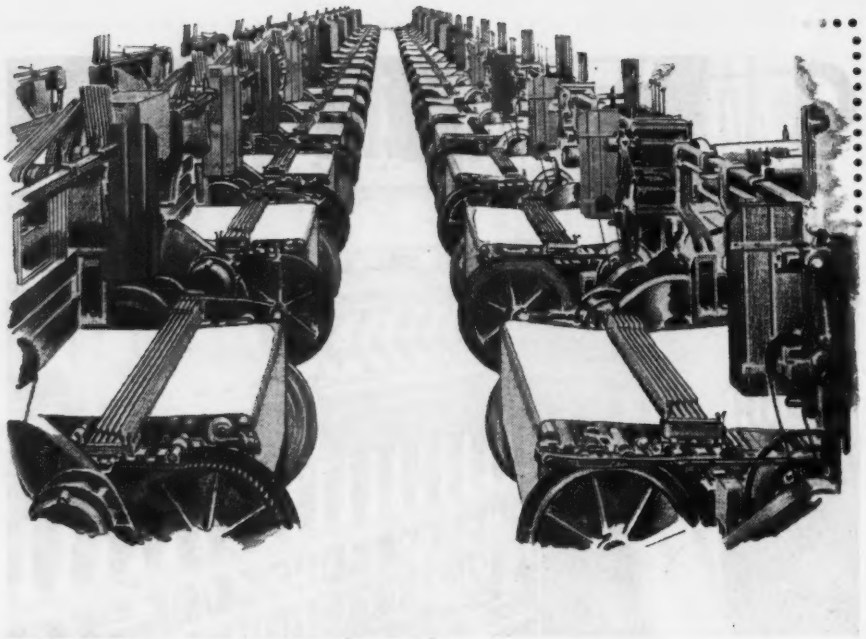
By H. S. KNOWLTON, *New England Editor, Textile World*

A NEW LABORATORY for research only was opened at 40 Fountain St., Providence, R. I., on May 22 by United States Finishing Co. It will be operated under Dr. L. Balassa, director, independently of the manufacturing departments in the company's several plants and their local testing laboratories. The new laboratory covers about 1,600 sq. ft. of floor space and will be devoted primarily to advanced work in fundamental textile research covering both natural and synthetic fibers, as well as the development of new and improved dyeing and finishing processes.

The research work will be classified in general under short, medium and long-range investigations. The first includes review of present processes and use of chemicals, and greater refinements in procedures already giving reasonable satisfaction, and should normally be completed within two to six months. The second embraces things now being done with a fair degree of knowledge of the subject, but which have not been developed to anything like the ultimate values contemplated, including benefits to consumers, and should take from six months to two years for completion. The third applies to projects of indefinite length, involving fundamental research in fields not yet explored or of which the surface has been only scratched. About 12 persons are expected to be on the research staff.

The equipment of the new laboratory is extensive, and much remained to be delivered at the time of opening. Among the facilities available or shortly to be installed are separators, vacuum pumps, Stonner viscosimeter, heated filter for keeping liquids hot, device for determining the melting point of waxes, a Beckman pH meter, specific-gravity meters, exhaust hoods (one is a double hood 6 ft. x 30 in. x 31 in. in mean height), having connections to the adjoining hood for extra long units, temperature-controlled water bath for testing dyeing elements, an air-conditioned combination dark-room with photomicrograph-camera for general textile work under constant temperature and humidity conditions, a fiber magnifier (18 to 20 diameters), analytical balances, Taber abraser, printing machine, Knowlton coating machine for fabrics with 3-kw. infrared dryer, Sperry filter press (160 psi), Mullen bursting-strength tester (300 psi), ultraviolet testing unit, Pelter autoclave, Hevi-Duty electric combustion furnace (750 watts), flash point tester, constant temperature equipment (De-Kohtinsky), Fisher flexaframe for glass apparatus mounting, and many others.

Magnesium brings stability and balance to your machines



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New YARN SCANNER Measures Diameter Variations

This newly developed yarn scanner records diameter of lengths shorter than ½ in. as yarn is fed through the bottom of the machine.

HIGHLIGHTS: **Short-length variability is determined continuously photo-electrically and recorded. Tests are non-destructive. Machine, developed in Reid and Stark Mills, used for quality control.**

A PHOTO-ELECTRIC DEVICE which determines evenness in size and weight per unit length of cotton yarn has been developed and placed in operation by scientists of the United States Rubber Co. at the Reid and Stark Mills, Hogansville, Ga.

Laboratory technicians in the textile industry have long recognized the high degree of short-length variability in cotton yarn size. This difference results from the nature of the fiber and the processing manipulation it receives. Lack of evenness in size and weight per unit length has been verified in the laboratory by tedious hours of microscopic work. Therefore, the possibility of extended comparisons of varying cotton staples and manufacturing processes, as they affect yarn qualities, have been restricted.

The new yarn scanner permits a precise and rapid evaluation of comparative qualities. Changes in cotton staple or grade combined with processing improvements may be reduced to comparative yarn values in any number of combinations. The instrument provides means for drawing definite and rapid conclusions as to economic or technological advances being considered in this phase of cotton-yarn production.

The photo-electric yarn scanner has a one-light source which illuminates two light-sensitive tubes through a slit in front of each. The yarn to be tested passes through one slit while the other slit is adjusted to set the zero of the meter at a convenient place on the scale. Meter deflection is noted as the shadow of the yarn passes over the photo-electric tube. The variant is then registered on automatically controlled charts.

Microscopically and by means of filar micrometers, the diameters of the cotton are measured against steel wires of known diameters. They are then calibrated against a glass stage micrometer ruled in thousandths of an inch. In this way, the meter readings obtained from the machine are directly reducible to absolute standards.

The information obtainable from the meter and counter readings is of great statistical value. For the first time in history, it is possible to obtain by a practicable routine procedure a frequency distribution curve for yarn diameter, measured in lengths shorter than ½ in. These tests are non-destructive, and do not alter the yarn in any way. This is extremely important in correlating yarn uniformity with yarn strength, because the yarn breaks at the thin places, which are often less than 1-in. long.

Thus the yarn scanner is an instrument that measures non-destructively and in short lengths the diameters of yarns and cords. It is the latest instrument in the series for measuring uniformity of successively finer textile materials, from picker lap to finished yarns and tire cords.

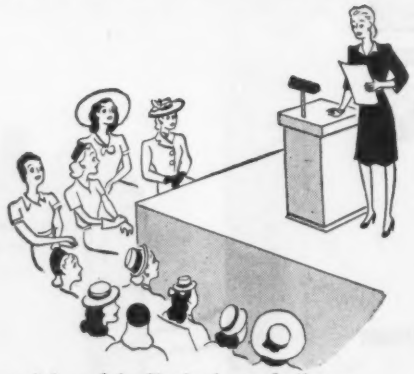
RAYON REPORTS

Published Monthly by American Viscose Corporation, New York, N. Y. JUNE, 1945

RAYON TELLS ITS STORY TO CLUB WOMEN

Recognizing that America's 5 million club women comprise an important and influential segment of American society, the American Viscose Corporation has prepared a panel discussion program on rayon designed for women's clubs to conduct themselves. This is in addition to other educational activities regularly carried on by American Viscose.

This prepared program supplies in practical form all the material for a panel discussion so that the club chairman can easily put on a program with her members. This includes a chairman's introduction, speakers introductions, outline of subjects, suggestions on how to use reference material, lead-in questions to stimulate discussion, reference material and bulletin board charts.

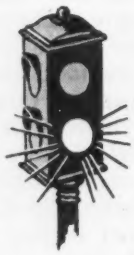


How well this program is being received by the women's clubs is indicated by the following figures. In the first two months of operation, this packaged program has carried the story of rayon to 5,500 clubs with an average membership of 100, or to about a half-million women.

TEXTILE RESEARCH UNIT DEVELOPS MACHINERY INNOVATIONS

As part of its continuous experimentation with rayon textile production, the Textile Research Department of the American Viscose Corporation, at Marcus Hook, Pa., has introduced many innovations for the machinery used in this work. The example shown here is a variable speed changer on the worsted card, which allows for experimentation with speed control.

ARROW SHIRT FEATURES NEW "CROWN" TESTED FABRIC



Cluett, Peabody is currently featuring a special Father's Day line of "Arospun" men's shirts. The fabric is a fine broadcloth type of 70% CROWN spun rayon and 30% cotton, and is CROWN Tested for dress or sport shirts. The fabric scored well on all Green Light tests, including machine laundering, perspiration, crocking, sunlight, hot pressing, permanence of finish, tensile strength and shrinkage.

HOUSE ORGAN REQUESTS A.V.C. REPRINT BOOKLETS

In response to a request by Verney Mills, Inc., the American Viscose Corporation is supplying 2,500 copies of its booklet, "Rayon Tells Its Story to the Public," to this company. The booklet will be enclosed with the company's house organ and distributed to employees.

"Rayon Tells Its Story to the Public" contains reprints of the American Viscose Corporation's institutional advertising. These advertisements tell how Rayon and Vinyon**—through continuous research—are becoming increasingly important to the life and welfare of America.

The American Viscose Corporation will gladly supply reproduction electros of individual advertisements or extra copies of the reprint booklet to house organ editors who are interested in using this public relations material.

**T. M.—C. & C. C. C.

GOOD FUTURE SEEN FOR TRICOT KNITTING

An article appearing in a recent issue of "The Underwear and Hosiery Review," sees a bright outlook for tricot knitting after the war, the forecast being based on two salient points:

1. The textile trades will have available one of the fastest and lowest cost methods of converting yarn into fabric.

2. The versatility of the (tricot) machine, when understood and exploited by the fabric designers, should open up many new and different outlets for tricot merchandise.

MAKE USE OF 4-PLY SERVICE

1 PRODUCT RESEARCH
Helps you get the right yarn or fiber.

2 FABRIC DEVELOPMENT
Helps you design new fabrics.

3 TEXTILE RESEARCH
Helps solve production and finishing problems.

4 "CROWN*" TESTED
Helps provide scientific selling facts.

AMERICAN VISCOSE CORPORATION

America's Largest Producer of Rayon Yarns and Staple Fibers

Sales Offices: 350 Fifth Avenue, N. Y. C. 1; Providence, R. I.; Charlotte, N. C.; Philadelphia, Pa.

Plants at: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

CROWN TESTED

*Reg. U. S. Pat. Off.

SALVAGING PATTERNS
Can Reduce Entering Costs

HIGHLIGHTS: Weave patterns on hand often are suitable for new designs so that breaking up and re-entering can be avoided. Crossing ends with the heddles can speed up reeding. Headings useful as records.

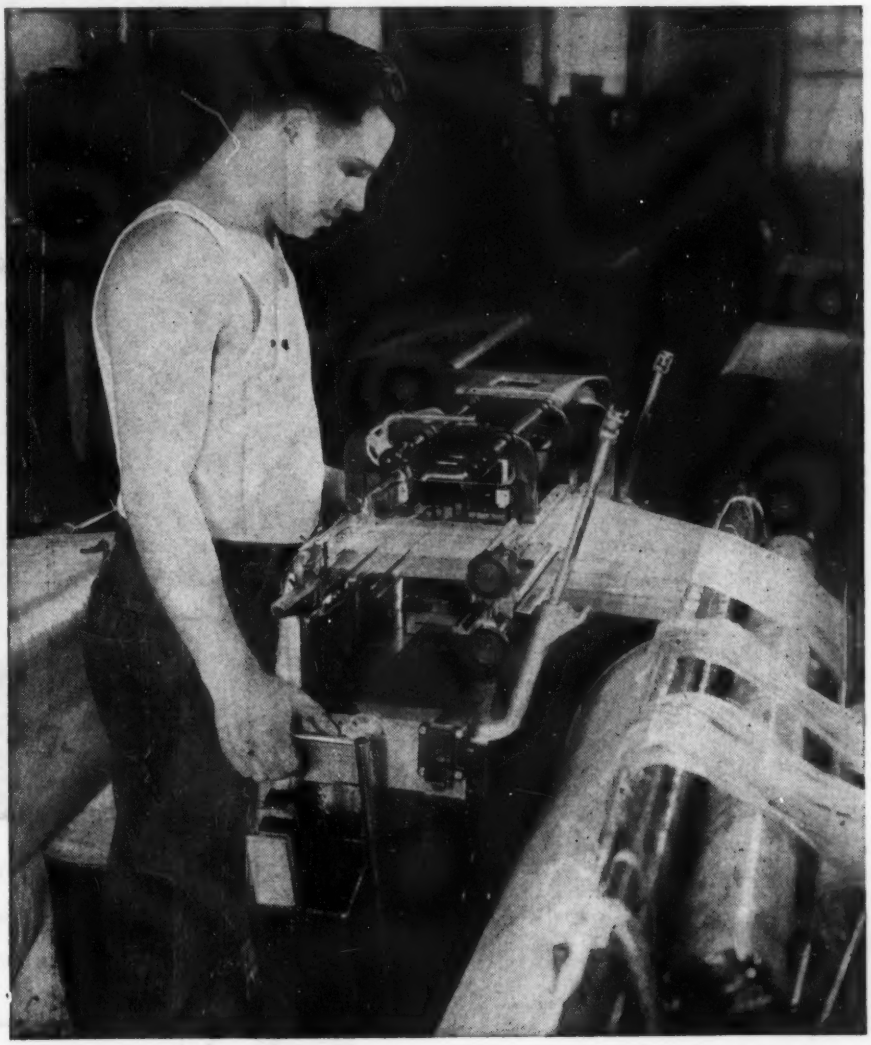
By H. E. WENRICH

THE USUAL WEAVE-SHED has two or three sets of harness per loom to take care of seasonal weaves. To increase this usual number would entail a large number of frames and an enormous supply of heddles as well as large storage facilities. One way to avoid idle space and suppplies, a common result when taking on new weaves, is to break up certain stored harness sets to make the required entries for the new construction.

On many weaves, the building of new sets cannot be avoided. Take fancies, for example. The weave for one season may be stripes, blocks, or point draws of small design, whereas the following season may see a change to large design. Rare is the occasion when an entry on fancies can be utilized "as is" for a second season. Some few weaves, however, classified as fancies have become standard weaves, such as sand crepes. If a harness is used but three months in the one season and could be used for a second season, it would be unwise to break up the costly entry.

HEADING RECORD. When operating on fancies, certain tricks will enable the twisting department to save time in making change-overs. For instance, all harness sets should have a half-yard heading woven on, previous to removal from the loom. When the set is received in the twisting room, half the heading—full width—is cut free and numbered, with the harness numbered likewise. This swatch is next submitted to the designing department, or twisting foreman, to investigate possibilities of using the same set on a new design.

Here is an example: The completed entry is seventeen shafts comprising four shafts ground and thirteen design for weaving small figures of 2-in. spacing. The new design requires four shafts ground and pin stripes with 4-in. spacing placed on six shafts. It is possible to remove seven shafts from the design set and utilize the balance for the pin stripe.



When patterns are saved, machine tying can replace drawing-in. *Courtesy Pepperell Mfg. Co.*

In setting up such a job for twisting, a less experienced twister-helper can be instructed on the set-up. The reed is cut free and the front ends are secured to the frame take-up roll. The required amount of ends on the first-group ground is counted out and tied in a bunch. Next, the required amount of heddles for the stripe is counted out on the six shafts and a string is tied around this group. This procedure is continued until the number of required groups has been completed across the width. On a 43-in. job, including selvages, there will be eleven sections of ground, and ten groups of stripe (empty heddles), more or less.

If the above example requires two warps—one ground and one stripe—

(*Continued on page 208*)

Marquette

ROLLER BEARING SPINDLES

Full-floating footstep bearing (hardened and ground and lapped) carries the thrust load and dampens vibration.

ARMY E NAVY
FOR EXCELLENCE

The Marquette METAL PRODUCTS CO.
CLEVELAND 10, OHIO

Manufacturers of: HYDRAULIC AND ELECTRIC WINDSHIELD WIPERS FOR AIRCRAFT
HYDRAULIC GOVERNORS FOR DIESEL ENGINES • ROLLER BEARING TEXTILE SPINDLES • FUEL OIL PUMPS
AIR COMPRESSORS • PRECISION PARTS AND ASSEMBLIES

Southern Representative: Byrd Miller, Woodside Bldg., Greenville, S. C.

Trustees Will Handle Redman SHRINKPROOFING Process

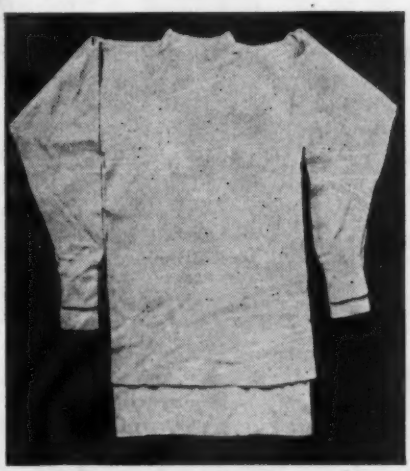
HIGHLIGHTS: Underwear Institute provides three of five board members. Process will be tested on production basis. Principle of method lies in "normalizing" fibers. Industry will find the process available upon royalty payment.

THE NEW REDMAN PROCESS for preshrinking textile fabrics (TEXTILE WORLD, July, 1944) has been placed in the hands of a board of trustees for commercial exploitation; and plans are under way for raising funds necessary to build pilot machinery to test the method of shrinkproofing on a production basis and to build a commercial model for industrial use.

The contract by which the board of trustees was created states that the board shall be composed of five members, three of whom will be officers of the Underwear Institute, and two to be appointed by Frank Redman, inventor and patentee of the process. The present trustees from the Underwear Institute are Roy A. Cheney, president; Earle E. West, secretary; and Ralph M. Jones, chairman of the board of directors. As this is being written, Mr. Redman's choice of trustees has not been announced.

The Underwear Institute was interested in the process prior to its public announcement last year. Upon the invitation of Mr. Redman, officers of the institute investigated the process; and, convinced that the knitting industry was in great need of an effective method of shrinkproofing fabric, they undertook an extensive testing program of Redman-treated and untreated fabrics in cooperation with the Philadelphia Quartermaster Depot. The results of these tests, made by the Depot's standard mobile laundry, were presented by Maj. D. C. McLeod at the Philadelphia meeting of the Underwear Institute last year (TEXTILE WORLD, June, 1944).

QM INTERESTED. Lt. Col. Frank M. Steadman and Major McLeod, both of the Philadelphia QM, have consistently assured Mr. Redman and the Underwear Institute that the QM is greatly interested in the process because its use promises to eliminate the present non-uniform sizes of Army knitwear. They state that the QM will cooperate in obtaining necessary priorities for building a pilot plant to complete testing of the equipment.



A garment made from an untreated knitted fabric is superimposed upon a similar garment made from the same knitted fabric after it had been treated by the Redman preshrinking process. Both garments were cut and sewn to the same measurements and laundered 15 times by a standard Army mobile laundry.

The process—patent No. 2,325,545, issued July 27, 1943—will be known commercially by the trademark "Redmanized." It is based on the premise that manufacturing processes deliver a fabric in which the cotton fibers are held in a state of mechanical lengthwise tension unlike their natural convoluted condition. Shrinkage occurs when the taut fibers relax into their normal state.

By the Redman method, the fabric is passed through a machine built upon the basic principle of pushing the fabric along in the presence of heat and moisture, instead of pulling it. The pushing is done by corrugated rolls bearing upon the fabric passing underneath them on a conveyor. The rolls run at such a speed as to deliver the cloth in a lengthwise rumpled state, and the heat and moisture are introduced in the form of steam. The fabric is dried while still in the rumpled condition; and the fibers, in drying, return to their normal tension-free, or shrunken, state. Thus, the process is said to normalize the fibers after the yarn made from them has been knitted into fabric.

CALENDER ADDED. Since the method was announced and described, a calendering process has been added to dry and fold the fabric being delivered from the corrugated rolls. The calendering is accomplished without subjecting the cloth to tension, and it is said that more complete preshrinkage is possible than at first stated.

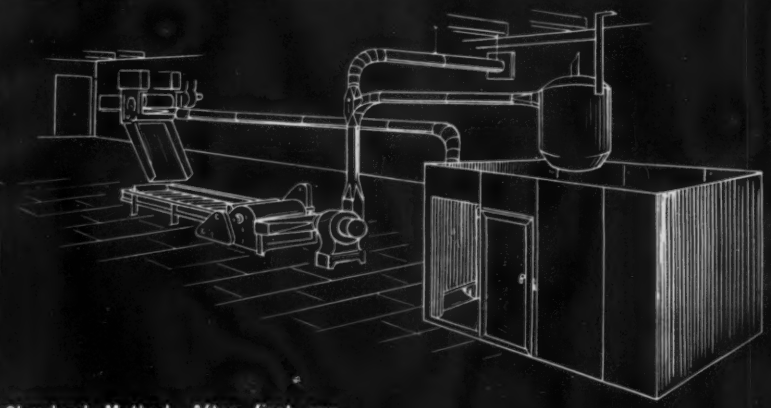
The board of trustees will solicit funds from the textile industry to finance the commercial introduction of the Redmanized process to industry. Tentative plans are to turn the manufacture of the equipment over to a recognized textile-machinery builder, and to distribute the equipment to the industry on a royalty payment basis.

The trustees' contract directs that a manufacturer will be permitted "to use the trademark Redmanized only on true-size materials made under the supervision of the trustees and according to standards set by Redman and the trustees . . ." To carry out this provision, and to improve upon the process and equipment, the trustees will sponsor an engineering and research department and laboratory for development and testing work, and to establish "true-size" standards.

At the time that the process was announced last year, there was some question as to whether sufficient production could be attained to make the method practicable. Although no production figures will be available until the commercial model of the equipment has been made, the trustees are convinced that production will be satisfactory.

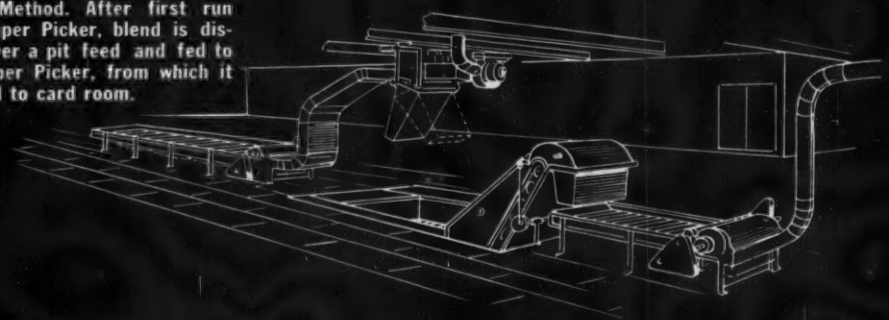
The Redmanized treatment was worked out primarily for use on cotton knitted fabrics, but tests have shown that a slight variation of equipment makes it adaptable to wool and cotton mixtures. Mr. Redman is convinced that the process can also be adapted to fabrics knitted from synthetic yarns.

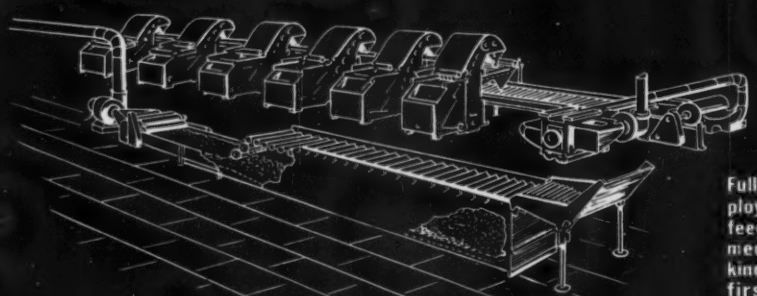
Individually Designed Blending Systems To Meet Individual Production Needs



Simple Method. One Proctor Super Picker. First blending is conveyed to bin, from which it is picked up and distributed over feed table of Super Picker, where it receives secondary blend and then conveyed to card room.

Cleveland Method. After first run through Super Picker, blend is distributed over a pit feed and fed to second Super Picker, from which it is conveyed to card room.





Fully Automatic System. Employs a number of automatic feeds with calibrated scale mechanisms, each laying one kind of stock on feed table of first Super Picker. Blend passes through re-blending box to wide Super Picker and then to card room.

Proctor textile engineers have developed many highly efficient blending systems for the continuous laying of blends or mixes of wool, cotton, rayon, asbestos, jute and other fibrous materials, preparatory to carding and spinning into yarns, or to garnetting into batt form. The continuous blending systems, illustrated above, are a development of the work done by the Proctor Super Picker and are based on the high productive capacity of this machine. This picker has a rated output of 4,000 to 6,000 pounds per hour.

As can be readily observed, these blending systems can be semi or fully automatic, depending upon individual plant production requirements. The systems are entirely flexible and can be arranged to meet individual plant layout. Plants already operating similar systems report amazing production figures. If blending is a part of your plant operation —you owe it to yourself to investigate the details of Proctor continuous blending systems. Let one of our sales engineers discuss your problem and make recommendations. Write today!

PROCTOR & SCHWARTZ • INC • PHILADELPHIA 20, PA.

ENZYMES in PRINTING
Improve Blotch Patterns

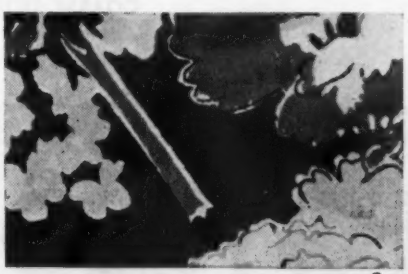
HIGHLIGHTS: Complete starch removal before printing often desirable. Residual starch may cause uneven appearance of large areas. Desizing after printing aids in obtaining better fastness and improved hand. High temperature enzymes lend themselves to continuous desizing.

By T. N. PATRICK

Large patterns, such as these, can be benefited by starch removal by use of enzymes.

THE TWO MAIN REASONS for the use of enzymes in textile printing are (1) the removal of starchy sizes prior to bleaching and (2) the removal of starchy thickening matter after the goods have been printed and the colors fixed by steaming or other means. For certain print styles, such as light patterns on light-weight fabrics, where no starchy matter has been used in sizing, no enzyme treatment is necessary. On the other hand, there are many print styles, particularly blotch prints on cellulosic materials, which cannot be perfectly produced without efficient enzymatic desizing in the preparatory and after-treatment stages of processing.

For the purpose of the present notes, it is only necessary to mention two types of enzyme; namely, diastatic and pancreatic, both of which are used today by bleachers, dyers, and printers for desizing and after-treatment. Generally, the diastatic types find wider application, though wartime restrictions favor the use of the pancreatic type. The ordinary types of diastase; e.g., malt extract, have an optimum temperature of about 140° F., when rapid declension of starch solubilizing power sets in. Souring of such products also raises a problem in maintaining solutions at effective working strength. The optimum pH value for this type of desizing bath is about 6.6 to 6.8. A useful control indicator is bromthymol blue, which changes from blue through green to yellow over a pH range of 7.4 to 6.2. In using diastatic mediums, therefore, temperature and pH control are of the first importance in maintaining stable and effective working conditions. For printed goods, a most effective diastase is found in one of the rapid acting types, which gives excellent results at higher temperatures (170° F. to 180° F.) than are possible with the use of malt extracts, whose maximum effectiveness is reached about 150° F.



Iodine test showed that faulty desizing caused the poor printing seen in the upper center.

BLOTCH PRINTING. In pointing out the fact that thorough cleaning of fabrics from starchy matter is important from the printer's point of view, blotch types of print are chiefly in mind. All printers of vat dyestuffs in blotch styles are aware of the difficulties attendant upon the production of perfectly level results. These difficulties may be considerably increased by faulty desizing of the fabric prior to bleaching, and it may be found in some instances when this type of fault persists that the remedy may lie further back than the printing, ageing, or developing processes.

Blotch prints, especially light vat colors on cotton, linen, or viscose rayon, which are unsatisfactory from this point of view may be suspected to have been insufficiently desized. Spotting with iodine solution will reveal the presence of starch, and if a

(Continued on page 198)

BUILT RIGHT
KNITS RIGHT

LEIGHTON
KNITTING MACHINE

WISE manufacturers are installing Leighton Knitting Machines because they produce sweaters that meet the modern demands of modern styles—NO MATTER WHAT THE YARN OR TYPE OF STITCH DESIRED. Coarse or fine stitches on the SAME machine.

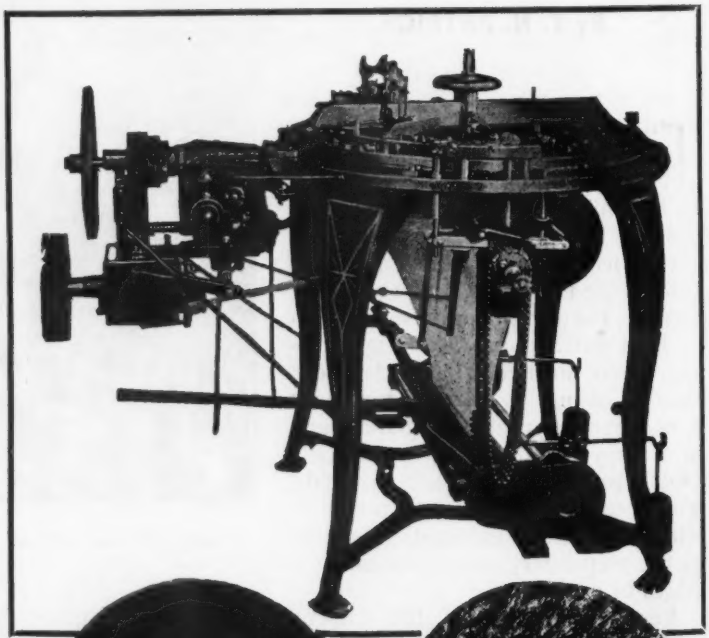
Leighton operates horizontal needles from outer dial towards center. Smooth cam action reduces yarn strain.

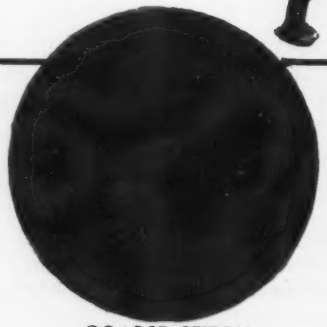
The Transfer Machine has perfect stitch control for each yarn feed. 12 changes are provided on each feed with separate control for cylinder and dial needles.

With the Leighton Machine the face of the fabric is in full view. Sharp bends are eliminated — soft spun yarns knitted with less end breakage. Heavy or fine yarns knit on the same gauge machine.

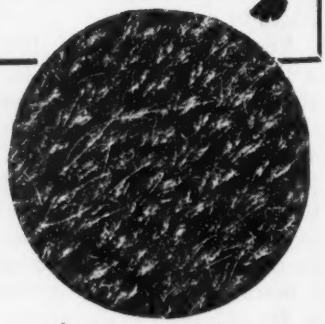
Automatic transfer from jersey stitch to rib and back to jersey on the Leighton Transfer Machine.

Motor Drive Optional





COARSE STITCH
2½-CUT



FINE STITCH
10-CUT

LEIGHTON MACHINE COMPANY
ESTABLISHED—1873

LEIGHTON

MANCHESTER NEW HAMPSHIRE
INCORPORATED—1894

REVOLVING CLEARER Improves Efficiency and Quality

HIGHLIGHTS: New clearer cuts cleaning time on slubbers 85% and reduces trouble caused by "eyebrowing." Applied to 1,500 drawing deliveries and 20,000 roving spindles at Dan River. Company experiments with use on spinning frames.

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

OPERATION OF THE revolving clearer over a period of time at Riverside & Dan River Cotton Mills, Danville, Va., has indicated that it reduces trouble caused by "eyebrowing" and saves operator's time in picking top clearers. In the latter improvement it has obviated one of the most troublesome of all practices on cardroom machinery—that of picking top clearers every doff. The revolving top clearer runs for many hours without any attention, varying between cleaning from 8 hr. for controlled-draft drawing to 288 hr. for speeders.

For some time it was evident to executives of the company that a better clearer should be devised. Trouble caused by "eyebrowing" of clearers over various synthetic top rolls had to be remedied. There was also the belief that a better method of collecting the short fibers and fuzz which make up clearer waste could be developed.

The revolving type of clearer is used and recommended for synthetic top rolls. Dan River Mills now have over 1,500 deliveries of drawing and over 20,000 spindles of roving frames equipped with these clearers. A patent has been applied for.

CONSTRUCTION. The clearer is simply constructed. It consists of a steel roller at the back and two wooden rollers. One of the wooden rollers is located over the front roll; the other occupies an intermediate position. The clearer apron receives a traction-driven motion between the surface of the back roll and the steel clearer roll which turns the clearer apron.

The front wooden roll and the intermediate roll do not provide any of the driving power. They act only to guide the apron around its circuit. The apron itself moves at a speed which is somewhat slower than the surface speed of the back roll. At this speed the apron gives the fast-moving middle and front top rolls a thorough cleaning—a process which has been aptly termed "scouring." In addition, it removes all short waste, lint, and dust from the top rolls and forms this waste into a tight felted mass which adheres to the apron.

This mass of clearer waste continues to collect other waste and lint, and runs for many hours without attention from the operator. The felted mass does not interfere with clearer efficiency but, on the contrary, adds to this effectiveness as it continues to build up. To remove it, the operator makes only one or two motions, those of breaking the web and pulling the waste quickly from the apron.

ADVANTAGES OF NEW CLEARER. From the tests and actual operation experience with the Dan River revolving clearer, it is possible to point out some of its advantages when compared with the ordinary flat clearer over synthetic rolls. The use of the revolving-type clearer, which is made for drawing frames, roving frames, and speeders, and is in the experimental stage for spinning frames, has cut the cleaning time 50% for drawing and 85% for slubbing. Another feature of the revolving-type clearer is the fact that the machine need not be stopped during cleaning periods.

Other advantages gained by the action of this clearer have to do with general cleanliness and yarn-quality features. As already stated, it reduces the hazards to yarn quality caused by "eyebrowing." It also thoroughly cleans the top rolls and keeps them clean at all times. Moreover, that action of the revolving apron which has been termed "scouring" prevents the undesirable matter picked up by the clearer from being returned to the passing stock.

Only one or two motions are necessary to remove felted clearer waste quickly.

For Five Generations a Part of the American Scene

a WARTIME message

about PEACETIME fabrics

AT THE CHENEY PLANT today we are still concentrating all our efforts on military needs. For though V-E Day is past, we must still work for Victory in the Pacific. And while the war lasts, the Armed Forces will be Cheney Brothers' first customers.

Yet this very wartime work is building a brighter peacetime future for Cheney fabrics—and for the American retailers who will soon be selling those fabrics.

Because military production demands the utmost in skill and "know-how." And Cheney Brothers—with their long experience and their constant textile research—are producing military products so scientific that they are actually engineered for specific end uses. And of course you will find all these improvements in the newer—and even finer—Cheney fabrics of tomorrow.

Meanwhile all loyal Americans are bringing that peacetime tomorrow closer by buying War Bonds today!

CHENEY BROTHERS

Quality manufacturers since 1838

350 FIFTH AVENUE, NEW YORK 1, N. Y.

Velvets—Pile Fabrics—Cravats—Upholstery and Decorative Fabrics
Yarns for Industry—Men's Wear Fabrics—Machine Thread—Industrial Fabrics

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MILLS AT MANCHESTER, CONN.

ALSO AT MANCHESTER, CONNECTICUT, A SUBSIDIARY...PIONEER PARACHUTE COMPANY

New FREIGHT RATES Have Little Textile Effect Now

HIGHLIGHTS: Order deals with class rates. Most textiles move under commodity rates. Will build Southern postwar market for cottons.

By GLADYS MONTGOMERY
Washington Editor, TEXTILE WORLD

ICC'S RECENT ACTION in ordering a uniform system of freight classification for the whole country and eventually a uniform schedule of class rates for all territory east of the Rockies appears to have little immediate effect on the textile industry. While the order deals with class rates and most textiles move under commodity rates, Senator John H. Bankhead (D., Ala.) pointed out that the ruling establishes an important principle of freight parity. Also, by creating more industry and employment in the South, a better postwar market for cotton goods in that section will inevitably follow.

A temporary 10% increase in class freight rates by Eastern roads on all intra-territorial shipments and a cut of 10% on all shipments to other territory is ordered. Southern and Western regions are ordered to cut 10% on all class-rate shipments. Since it will require some time to establish uniform classification, these interim changes may last for as long as two years, effective Aug. 30.

The interim arrangement will remove some of the complaints which have been voiced by Southern shippers who have contended that the present rates always put them at a disadvantage. An example is the rate on work clothing from Macon, Ga., to Chicago, 817 miles, which has been $1.56, while from Philadelphia, 814 miles, it has been $1.12. The rates would now be $1.41 and $1.23, a difference of $0.18 instead of $0.44. There will undoubtedly be a move to review all commodity rates, especially in connection with textiles.

ICC has ordered a uniform system of classification with the Eastern system as a pattern. When this is accomplished, the same commodity will take the same class rating throughout the entire country. Southern groups have argued that the classification system which has been in effect by the railroads puts many of their commodities, particularly manufactured goods, into higher classes than the Eastern system does. The present plan is therefore acceptable to them.

Railroads have been given 90 days by ICC to work out a uniform classification for themselves after which time ICC will step in.

The 296-page report just released by ICC requires careful study. At this writing, it is not clear what textile and apparel items are affected.

TERMINATION ROUTINE

(*Continued from page 99*)

1. Upon receipt of a notice of termination of contracts for woolens or worsteds, all prime contractors and subcontractors will be required to stop work as set forth in the schedule of Stop Work Stages, unless otherwise specifically directed by the Contracting Officer.

2. Upon completion to the stages indicated, all material will have to be weighed or measured and packaged. If the contractor intends to make retention offers for all or any part of the termination inventory, packaging may be postponed until disposition is determined. Disposition will be in accordance with the Joint Army-Navy Termination Regulation. The inventory quantities, as determined by the weighing and measuring above, will be the basis for contractor's termination claim.

3. The Stop Work Stages will cover the operations of a fully integrated mill. Where a prime contractor is not fully integrated, his subcontractors may be performing some of the operations for him. In such case, the subcontractor will be governed by the Stop Work Stages applicable to his operations. It is the duty of the prime contractor to furnish copies of the Stop Work Stages and to notify all of his subcontractors that they will be bound by the Stop Work Stages applicable to their operations. Furthermore, each such subcontractor, in turn, is required to notify his subcontractors of the applicability of these Stop Work Stages to their operations.

4. No material that has reached any of the established Stop Work Stages shall be put into process beyond that stage except that in order to weave out warps on looms (Stop Work Stage No. 8, Worsted System and/or Stop Work Stage No. 9, Woolen System) it may be necessary to continue making filling yarns.

5. Where cotton sliver is required in the production of a fabric, as for example, 10.5 oz. flannel shirting, the prime contractor must inform his cotton subcontractor to stop work (in order to clear machinery) in accordance with the following instructions:

a. Unopened cotton shall not be opened.

b. All open cotton and cotton in process in openers shall be continued through openers, then packaged and weighed.

c. All cotton actually in process of being dyed shall be completed, dried, packaged, and weighed.

d. All dyed cotton in process in pickers (or in form of picker laps), or on cards (or in form of card sliver), shall be completed into sliver, packaged, and weighed.

RETENTION OF MATERIALS. Plans are being developed for establishing standard retention offers for such materials as a contractor may desire to retain for his own use. This standard retention plan is to be included in pre-termination contracts so a mill may purchase work-in-process at time of cancellation and at about the same price that material is available to other mills conducting such operations in their plants. Materials not to be retained by a mill will be removed from the mill and to other points under direction of the QM.

TERMINATION FORMS. Many of the forms required for contract termination have been worked out by the Contract Termination Branch of the Philadelphia QM Depot. Also, many of the forms published in the October, 1944, issue of TEXTILE WORLD may be used as a guide.

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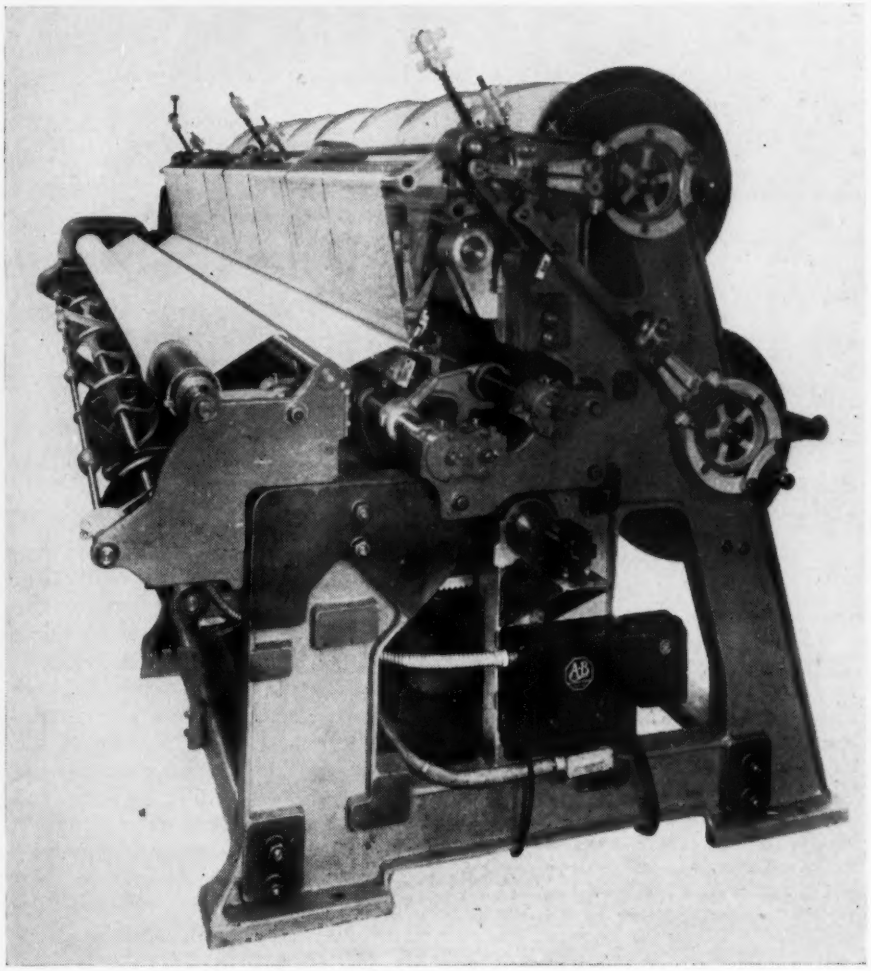
TEXTILE Equipment NEWS

New Tricot Machine Built for High Speed



New two-bar 28-gage tricot warp-knitting machine designed for high-speed operation. Note large beams used. (Reiner)

A new tricot machine, designed to withstand top-speed production, is being built by Robert Reiner, Inc., Weehawken, N. J. Improvements in machine construction have been made to simplify adjustments and handling, and to deliver a product of superior quality.

Special emphasis has been placed upon the cam mechanism to insure accuracy of operation, and upon the oil fittings to prevent oil from the bearings getting on the yarn or fabric.

The cams are built in one piece and are made of carefully selected Mechanite material. Settings are made with a patented cam-setting device to eliminate non-uniform settings. The cam rollers are ground to measurement with precision instruments.

The pattern wheel is placed in a straight line with the guide bars and is supported by a heavy arbor which may remain in position while the wheel is changed. A completely sealed patented drive, arranged for a convenient exchange of gears and lubricated by an oil bath, operates quietly and requires minimum attention. It will take a tricot or a 96-step Atlas wheel, 28 gage, without changing the shaft position. If desired, a chain attachment can be supplied instead of the pattern wheels.

The front guide bar may be lifted and automatically locked while threading the back bar. Guide bar supports slide in Oilite material, eliminating another source of free oil. One important feature is that the sliding parts are exchangeable. When these essential units become worn, they may be replaced at small cost.

Experience has shown that threading on the beams damages magnesium section spools. To prevent such damage, the threading has been eliminated; and the beams are held in place by a locking ring. Each long beam is provided with two warp-release brakes to cut down vibration and dancing threads. The brake capacity can be easily adjusted. The beam tube is 4½ in. in diameter, and takes a section beam of 21-in. diameter.

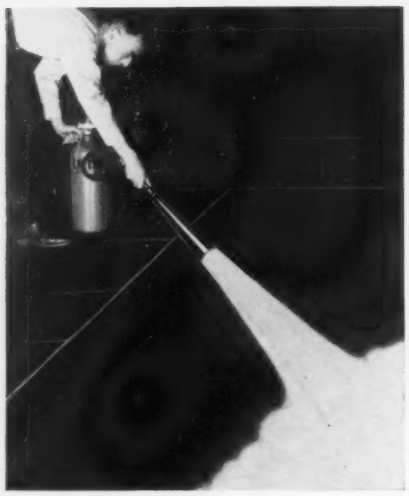
An important safety feature, patented and incorporated in the machine, is the power knock-off device which stops the rotation of the handwheel shaft while power is on the machine. This is accomplished by a multiple-disk clutch, engaged through the shipper rod, which breaks the drive connection between the handwheel shaft and the drive gear when the machine is put into operation.

The roller take-up is a well tested mechanism in which several new features appear. It is controlled by the tension of the cloth as it is rolled up, and will operate for any width of fabric. Up to 1000 racks of 100-den. single-bar material may be wound.

New Fire Extinguisher

A new fast-acting portable fire extinguisher, engineered for speedily putting out small oil or electrical fires with minimum loss of the extinguishing gas, is announced by the American-LaFrance-Foamite Corp., Elmira, N. Y.

It is the Alfite Speedex, made in 3 different sizes, Models 15, 10, and 4, and uses carbon dioxide as the fire ex-



Portable fire extinguisher (American-LaFrance-Foamite)

tinguishing agent. The numbers indicate the capacity of the extinguisher.

The operating valve lever is directly above the carrying handle. It can be instantly opened by the pressure of the hand grip and as quickly closed by releasing the hand pressure while the operator is maneuvering into position.

For continuous operation a D-yoke ring is slipped over the operating lever while it is depressed.

Poly-Phosphate Comparator

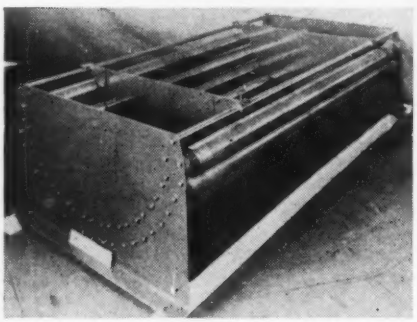
Poly-phosphate test set (Taylor)

A new method for determining the phosphate content of water used in power plants, hot water systems, air-conditioning and refrigeration units, etc., in which low concentrations of the poly-phosphates are used to prevent deposits or corrosion, has been announced by the W. A. Taylor & Co., Baltimore, Md. Previous methods required several hours boiling to convert the glassy phosphates to the ortho form necessary for analyzing. By the Taylor method a complete determination requires only 20 min.

The conversion is accomplished by the use of the Taylor Poly-Phosphate Comparator; and after conversion, two reagents are added separately and the blue color formed is compared with the standards. This gives the total phosphate content. A determination on the cold sample gives the ortho present. The difference is the poly-phosphate.

The outfit consists of a comparison block containing 8 standards, 0, 0.5, 1, 2, 4, 6, 8, 10 parts per million; 2 comparison tubes; and a funnel, filter-paper, graduate, flask, and reagents. All equipment is contained in a wooden carrying case 9¼-in. long, 6¼-in. wide, and 9-in. high.

SLIP-PLATE BATCHER



A batcher made to accommodate cloth in all widths is now being manufactured by Birch Bros., Inc., 32 Kent St., Somerville, Mass. Drive is by roller chain or V-belt to a friction unit composed of double-friction plates with an adjustment so that the amount of friction may be instantly adjusted. The clutch for starting and stopping the machine is mounted on the same shaft as the friction plates, thus making a very compact unit. On the entering side of the machine are mounted two rolls of special design to keep the cloth free from wrinkles as it is wound.

Abrasion Testing Machine

A testing machine set for determining the wear or abrasion-resistance of textile materials has been announced by the Taber Instrument Corp., North Tonawanda, N. Y. A complete testing set includes a Taber abraser, with all accessories, and a specimen table for running tests under wet or moist conditions. An illuminated magnifier for the inspection and examination of specimens is part of the set.

The wearing action of the abraser is performed by dual abrasion wheels bearing against the specimen under constant pressure. The wheels revolve in opposite directions, one sliding radially toward the outside and the other sliding toward the inside of the wear path. Each wheel exerts a combined abrasive, compressive, and twisting action twice in each revolution of the specimen holder. Because the specimen holder travels a complete circle, the wear due to differences of grain or weave is fully revealed. A standardized load adjustment is provided for varying the pressure of the wheels against the specimen so the abraser will test both delicate and tough materials will equal precision.

Abraser for determining the wear of cloth (Taber)

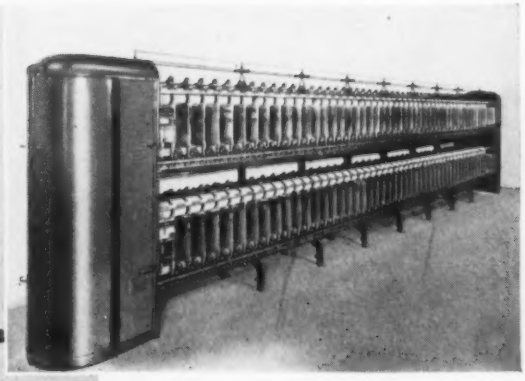
The Taber abraser is self-contained and ready to operate by simply plugging into an electric line. The results of tests are reported either as the number of "Wear Cycles" or as "Loss in Weight" when weighed on a precision laboratory balance.

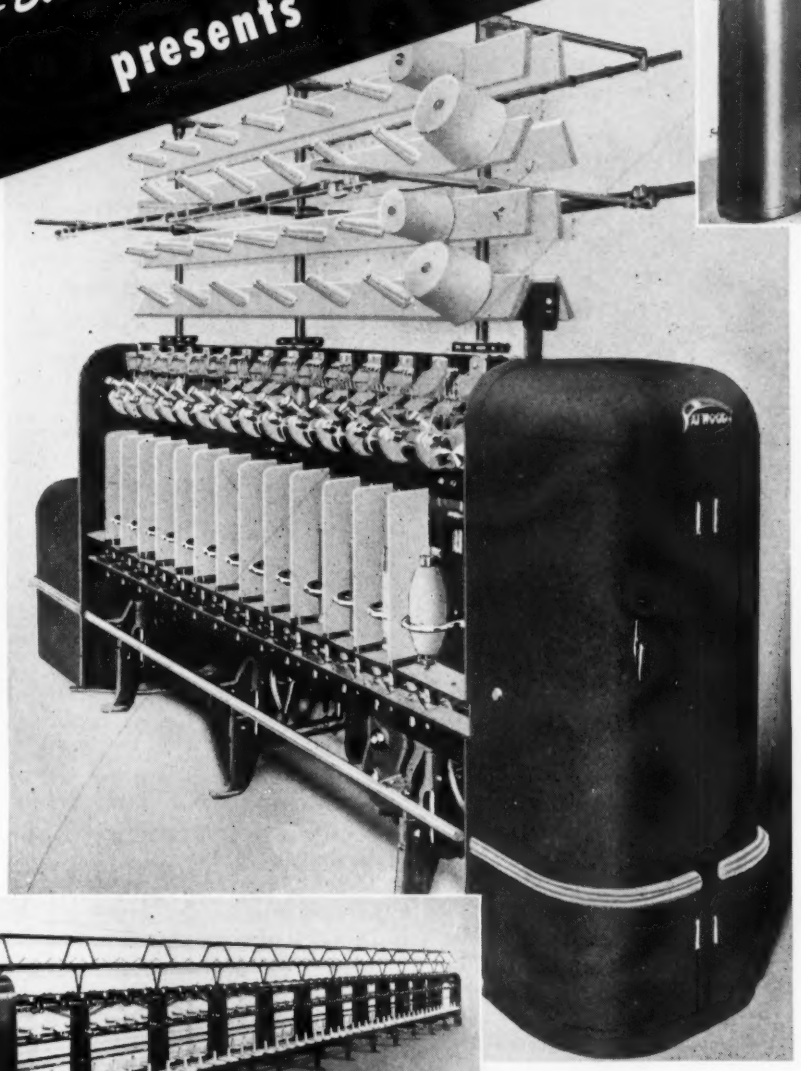
Noiseless Hot-Water Heater

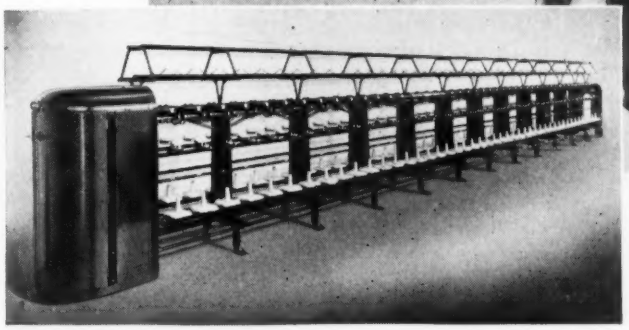
A new noiseless industrial hot-water heater which heats water instantaneously with steam has been announced by the Pick Mfg. Co., West Bend, Wis. A jet of steam is injected through the new patented "pressurizer piston" which eliminates pipe hammering and shaking of machinery common to ordinary steam injection heaters.

This "pressurizer piston" is included as a part of the steam injection tube and acts very much like a regulator under accurate control. It restricts the internal area of the tube and automatically compensates for any change

ATWOOD DIVISION
Farrel-Birmingham Company, Inc.
presents







↑ *The Atwood Up-Twister,* Model 110, of the most advanced modern design, is the Twister for quality and quantity production of knitting and weaving yarns. It handles packages from eight oz. to 2 lbs., headless or bobbin, providing any desired twist from 1½ to 70 turns per inch. It is designed for utmost operating convenience.

← *The Atwood Ring Twister,* Model 10 for yarn packages up to 1½ lbs.; Model 11 for packages up to 3 lbs. Incorporating the most advanced engineering and construction features, this heavy duty Ring Twister delivers from cakes, cones, bobbins, pirns or tubes; combines from 2 to 12 ends of yarn — *rayon, nylon, silk, worsted, spun rayon, cotton* or any *combination;* inserts any desired twist from ½ to 70 turns per inch, on any size package up to 5″ dia., 9″ length.

← *The Atwood Redraw,* Model 200, is up-to-the-minute in every respect. Various size packages can be made from skeins, cones, cakes or spools of any kind of yarn at high speeds. Spacing, creeling, tensioning, and other operating factors are furnished to fit the job.

Atwood's unsurpassed experience in the building and installation of yarn machinery and Farrel-Birmingham's extensive engineering, research and production resources make an unbeatable combination. Ask us to give you the whole story on these newest Atwood Machines.

ATWOOD

ATWOOD DIVISION

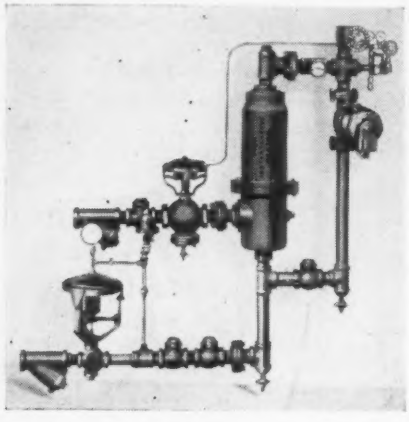
Farrel-Birmingham Company, Inc.

STONINGTON, CONN., U. S. A.

in heater load. As a result, any temperature or volume within the piston's effective range can be selected and maintained with accuracy.

These heaters have a heating range of 40° to 180° F. They can be obtained to operate on any selected steam pressure from 40 to 100 lb. Built in seven sizes, the heaters are rated according to the maximum number of gallons they will deliver per minute. Sizes range from 10 to 200 gal. per min. and can be selected to meet the needs of an individual plant.

Because of possible variations in capacity and temperature, the Pick instantaneous heater can be used as a primary source of hot water or to supplement existing sources of supply.



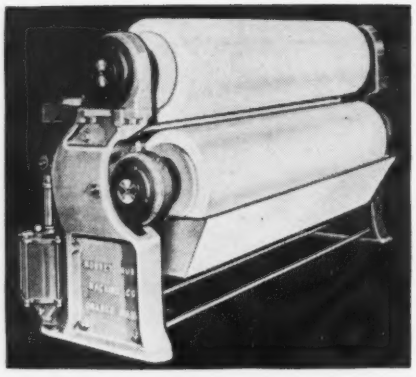
Patented "pressurizer piston" controls steam and vibration (Pick)

Heavy Duty Padder-Mangle Has Unique Features

A new padder-mangle which provides operating pressures from 0 to 30,000 pounds has been announced by the Textile Machinery Div. of the Rodney Hunt Machine Co., Orange, Mass. It is a heavy-duty, pneumatically-controlled unit which features a unique arrangement of the rolls at an angle rather than having the top roll directly over the bottom roll. This feature insures a greater uniformity of padding and dyeing, and eliminates the deeper shades on the selvage which is a frequent source of trouble on some machines.

Another exclusive feature is the application of the pneumatically-controlled pressure to the bottom roll rather than the top. By making the bottom roll movable, it allows this roll to drop out of contact with the fabric by gravity when not in operation. This eliminates the need for continuous air pressure in order to keep the rolls out of contact.

Any type of tub or arrangement of



Rolls of the new padder-mangle are arranged at an angle (Rodney Hunt)

immersion rolls can be provided. The tubs can also be designed for short or long baths, and the units can be provided with the means for heating the processing liquor.

Adjustable Drop-Feed Oiler

A new adjustable drop-feed oiler for feeding filtered oil in controlled quantities has been announced by the Oil-Rite Corp., Milwaukee, Wis. It is especially suitable for very slow or medium feeds, or for continuous operating machines.

Oil is fed by gravity through an oil port which can be adjusted within a wide range. It can be wide open to provide a steady flow of oil, or it can be closed entirely. Thus, an extremely slow drop feed is possible even with light oil. The rate of feed remains practically constant regardless of the oil level.

To adjust the oil flow, the hinge lid is held open and a standard hexagonal key is placed through the hollow lock screw into the set screw, and adjusted to suit. To lock the desired setting, the key is partly withdrawn until it engages only the lock screw. The lock screw is then tightened. The combina- of a hollow lock screw and a set screw provides a positive means of locking and retaining any desired setting even under vibration.

The adjusting screw is located within the reservoir. This is especially helpful when machines can be adjusted for best performance and the setting permanently locked.

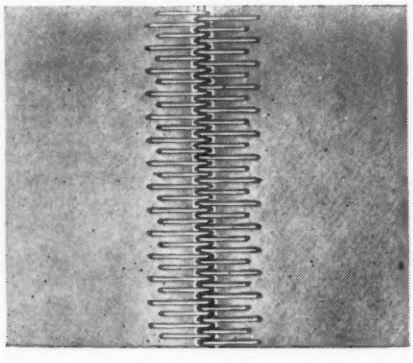
The oil port is a little above the bottom of the reservoir, and dust and dirt can settle at the bottom and will not ordinarily enter the port. An oil filter is placed over the oil port, preventing any impurities from entering the bearing.

The construction is sturdy, consisting of two main parts, the base and the reservoir. The base is made of brass, and the reservoir is made of unbreakable transparent plastic. The visible oil supply indicates when a refill is needed. A self-closing hinge lid on top of the reservoir can be opened with an oil can spout when filling. The oiler can be taken apart for cleaning by unscrewing the reservoir from the base.

It is possible to furnish this oiler in special height reservoirs. Capacities of $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, and 1 oz. have been selected as standard sizes. These can be furnished with $\frac{1}{8}$-in. or $\frac{1}{4}$-in. pipe thread.

Oil is filtered through port hole (Oil-Rite)

Wire-Hook Belt Lacing

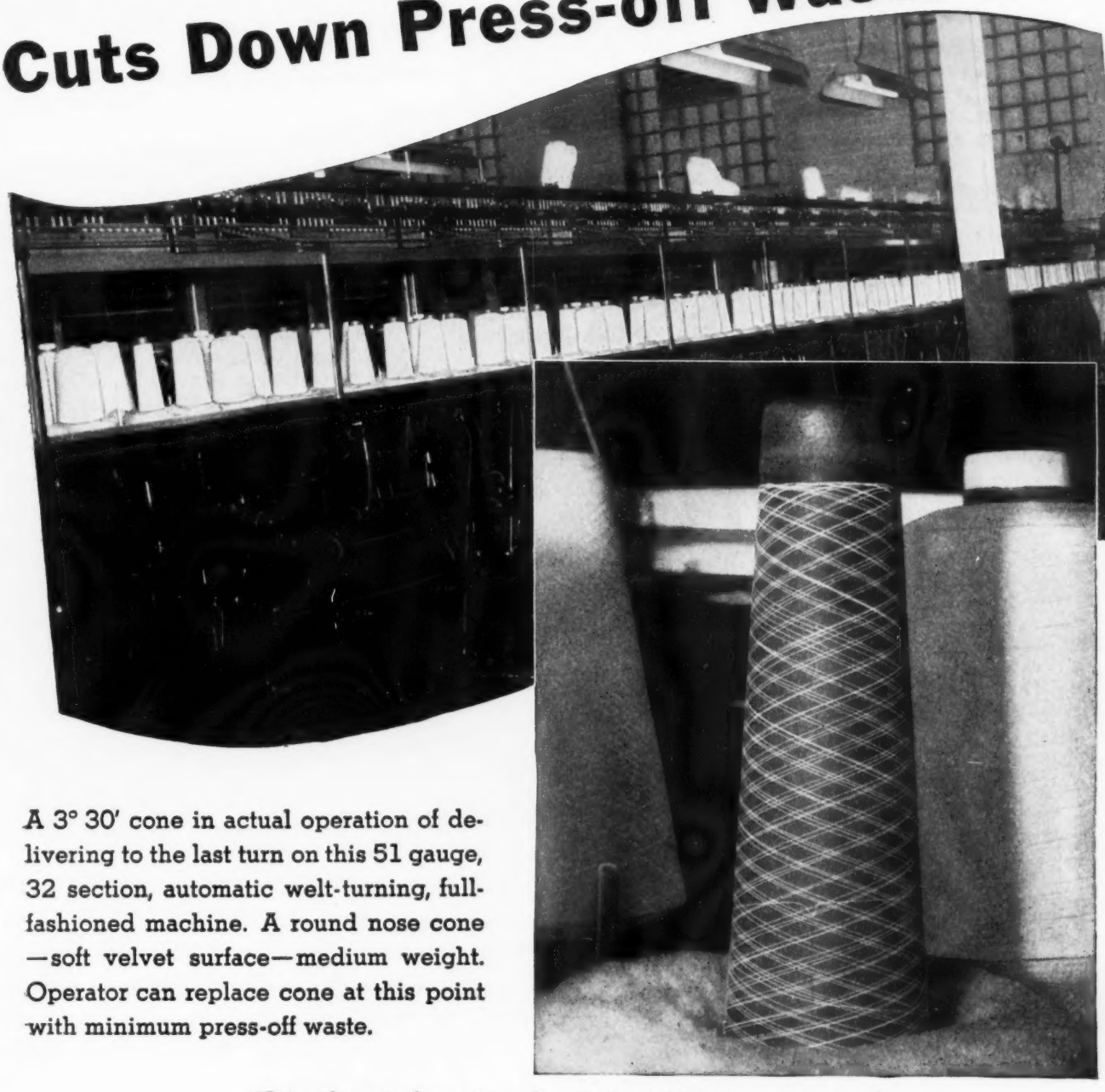


Hooks mounted with aid of spacer card (Bristol)

A line of hinged-type wire belt hooks, known as Bristol's Belt Hooks, has been announced by The Bristol Co., Mill Supply Div., Waterbury 91, Conn. The new hooks are designed for joining all types of flat belting, including leather, fabric, and rubber belts. Hooks are available in various sizes to fasten belts up to $\frac{3}{8}$-in. in thickness.

A method of mounting the hooks in

Cuts Down Press-off Waste



A 3° 30′ cone in actual operation of delivering to the last turn on this 51 gauge, 32 section, automatic welt-turning, full-fashioned machine. A round nose cone—soft velvet surface—medium weight. Operator can replace cone at this point with minimum press-off waste.

Note—the round or crimped nose suggests rayon yarn not subjected to sizing process—direct from rayon producer. Cone in right background, with pineapple wind and straight nose with lacquer tip, indicates sized rayon yarn from throwster.

Left background—9° 15′ cone package standard for cotton hosiery yarns.

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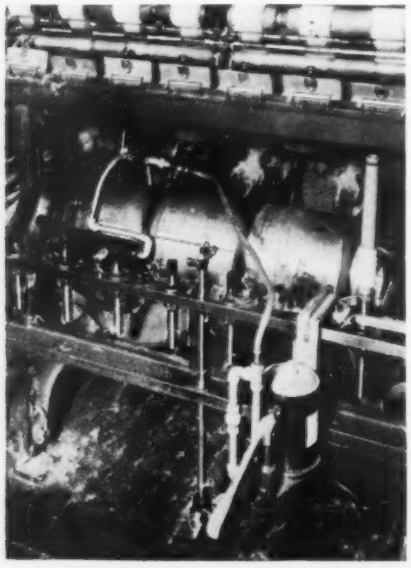
the spacer card makes it possible to leave the card in place in the lacing machine during the lacing operation. The hooks are thus held in accurate alignment until the hook points pierce the belt. It is not until after the lacing operation has been completed that the card is removed. This method of carding insures a uniform spacing of the hooks and results in an even distribution of pull over the width of the belt.

The hooks are designed in such a way as to enter the belt in two rows, with each opposite point passing into the belt in alternate rows. The purpose of this arrangement is to eliminate interference between opposite hook points as they are pressed into place and also to distribute the grip on the end of the belt over a greater area.

Hydraulic Machine Separates Cylinder Section



Hydraulic force separates the sections of a spinning cylinder without injury to shaft, bearings, or head (Columbia)

A machine to supply hydraulic force for separating the sections of a spinning cylinder has been announced by the Columbia Supply Co., Columbia, S. C. The machine is being marketed under the trade name "Ezy-Apart" Drum Separator, and it may be used in removing bearings and connecting shafts without damage to the cylinder or cylinder head.

The tool is easily handled and has jaws adjustable to any size cylinder. It is built heavy enough to withstand rough treatment. A set of leather straps to support the cylinder during removal is included with the separator.

To operate the machine, six spindles

(Continued on page 214)

Mill Maintenance TO KEEP 'EM RUNNING

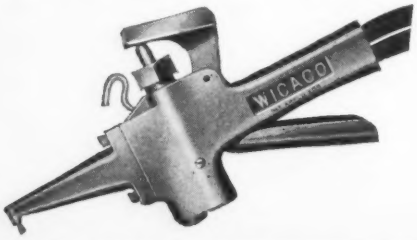
Spindles Can Be Oiled Without Oil Overflow

The problem of oily yarn, tapes, and floors has been solved, many mills report, by the use of the Wicaco Spindle Oiling Machine, made by the Wicaco Machine Corp., Philadelphia, Pa. The oiler is being used on both sealed spindle bases and snout-type bases. Mills using the oiler state that, in addition to eliminating excess oil, they are also effecting a considerable saving of oil and labor.

The virtue of the machine lies in the fact that the oil gun performs two operations simultaneously: (1) it puts oil into the base through a pressure tube; (2) it removes excess oil by suction through another tube. The pressure tube is built inside the suction tube so that the operator can use the gun as easily as a conventional single-action gun.

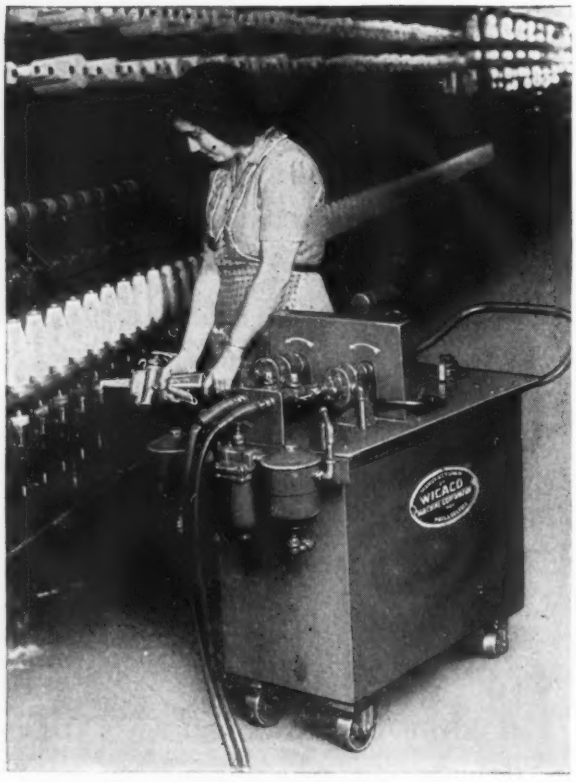
The pressure tube is inserted to the bottom of the sealed-type spindle base so that there is no "blubber" caused by air escaping as the oil base is filled with oil. When the oil has been raised to the proper level of the base, it comes into contact with the outer, or suction part of the gun tube. If pressure is maintained on the gun trigger, oil will continue to go into the base; but the suction tube returns it to the portable tank, holding the oil level in the base constant.

A different gun must be used for snout-type spindle bases, but the pressure-suction principle is the same.



ABOVE

The tube of the oil gun oils from the bottom, rather than the top, of sealed-type spindle bases.

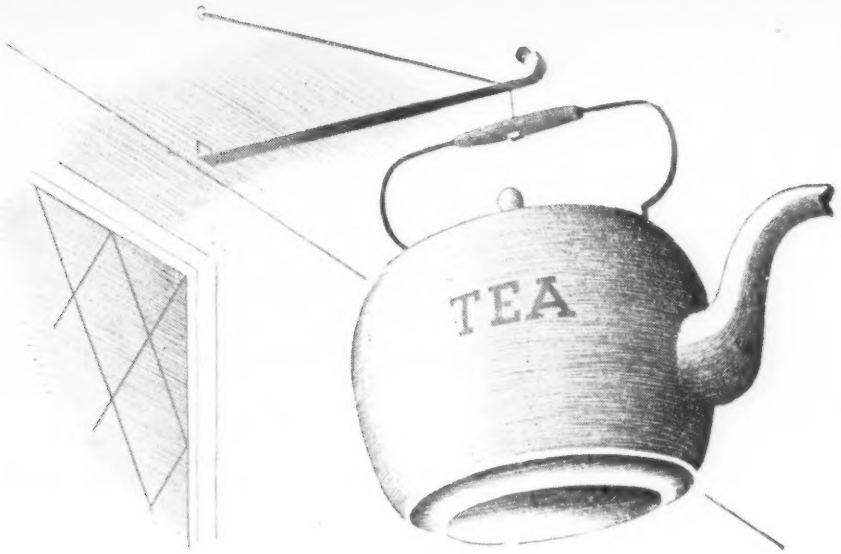


TOP LEFT

The pressure-suction gun can also be used for oiling snout-type spindle bases.

LEFT

The spindle-oiling machine cut oiling time in one mill from 6 hr. to 2 hr.



Remember?

Unmistakable identification of the tea merchant was the result of such a realistic sign. Today, your product must have adequate identification at point-of-sale if your acceptance-creating advertising and promotion are to result in sales. • Kaumagraph provides the essential point-of-sale identification in various ways. Kaumagraph Dry Transfers*, Prestomarks, Embossed Seals, Lithography can be used for distinctive, attractive, economical marking of textiles, leather, rubber, synthetics. Kaumagraph, under one roof, will design, plan and produce all identification necessary to help the sale of your products. • Many new methods and products developed for war by Kaumagraph Research are ready for use now —others when peace returns. Kaumagraph is pledged to uphold the American system of Free Enterprise, through development and expansion of new products that will increase the earnings of employees and assure full employment for many veterans and demobilized defense workers. • Our Nation's backbone is the Free Enterprise system, competition is always keen. Attractive, distinctive identification will help your products achieve success in your markets. Investigate Kaumagraph Identification. Send for a Kaumagraph Identification Man today.

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Kinks AND SHORT-CUTS

A $25 WAR BOND FOR YOUR IDEA

A $25 War Bond will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production, in brief any little device, stunt, kink, or short-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operations. Previously published material is not eligible for the award. Judges of the contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will be paid for at our regular rate for this type of matter with extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

★ WAR BOND PRIZE WINNER FOR JUNE

(April Contest)

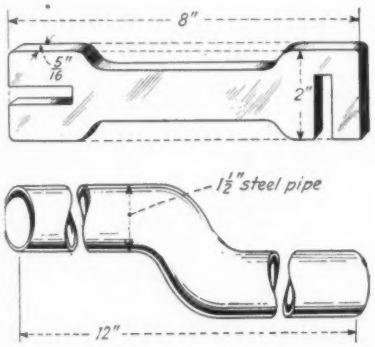
Loom Magazine Tools Make Adjustments Easy

Minor adjustments to the cradle and hammer, or transfer arm, of loom magazines may be made without removing them from the magazine by the use of the two simple tools shown in the accompanying sketch.

The cradle wrench is made from a piece of flat steel approximately 8x2x$\frac{5}{16}$ in. The wrench is cut out as shown by the sketch in the next column, and the rough corners are rounded and smoothed off. Two of these wrenches will be needed. With them a cradle can be twisted slightly until the bobbin rolls evenly into the giveways.

The drawing also shows a wrench for bending the transfer arm into the position desired. It consists merely of a piece of steel pipe, bent in the shape illustrated.

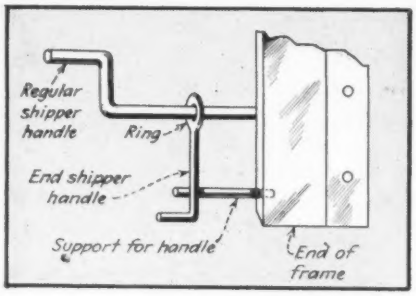
To bend the transfer arm, place the end of the arm into one end of the tool and use the other end as a handle. *(K-330) C. S. Bicksler, Lancaster, Pa.*



Cradle wrench is made from 5/16-in. material; hammer wrench from 1½-in. pipe.

End Shipper Handles Aid Draw-Frame Tender

To eliminate the necessity of draw-frame tenders reaching across the tops of roving cans to start or stop a frame, additional shipper handles may be installed at the ends of the frame. The handle illustrated was attached at a right angle to the regular shipper handle and has proved to be quite satisfactory. A slight push or pull moves the regular shipper handle, shifting the drive belt as desired. Attached to the regular handle by a ring somewhat larger than the handle, the end handle is not held rigidly in place but when not in use is allowed to drop down against a support fastened to the frame. *(K-331) Roy S. Michael, Lima, Peru*

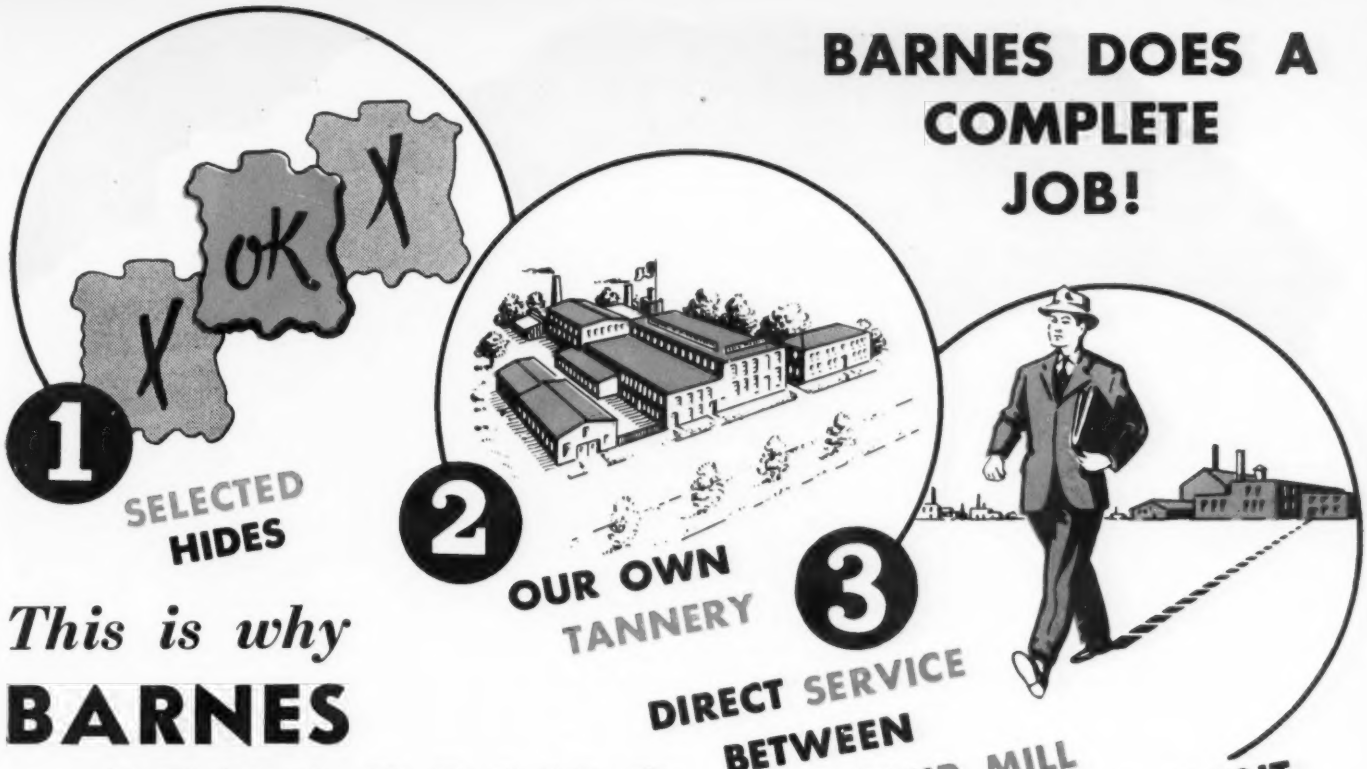


Handle does not protrude past end of frame.

Device Simplifies Moving Bolster Rail

When changing the size of spindles on a spinning frame, it is usually necessary to raise or lower the bolster rails. This must be done to correct the distance between the top of the spindle blade and the thread guide, and to make possible the proper adjustment of the bobbin build. In moving the bolster rails, two things

BARNES DOES A COMPLETE JOB!



This is why BARNES STRAPPING *has greater* STRENGTH

and resistance to HEAT • OIL • STRETCH

Our outstanding line of textile-mill strapping is fully up to the high standard of our famous belting and textile aprons. For lug, harness, check, and picker straps we offer a choice of specially processed Hair-On leather and plain leather. Both types specially treated to meet requirements of particular service desired. All Barnes straps made from prestretched leather.

At the right is shown the Barnes Gam-Oil Lug Strap—typifying the high quality of our complete line. Supplied in from 2 to 5-ply, thickness formed to fit pickerstick accurately Treated with special preparation and allowed to set properly before shipment so they will resist heat and oil. Withstand the most powerful throw of the shuttle, reducing noise, prolonging life of pickerstick. Slotted to exact specifications. Tests prove Barnes lug straps last from 2 to 4 times as long as any substitute.

BARNES STRAPS INCLUDE:

OAK and HAIR-ON (G.O.G.) HARNESS STRAPS

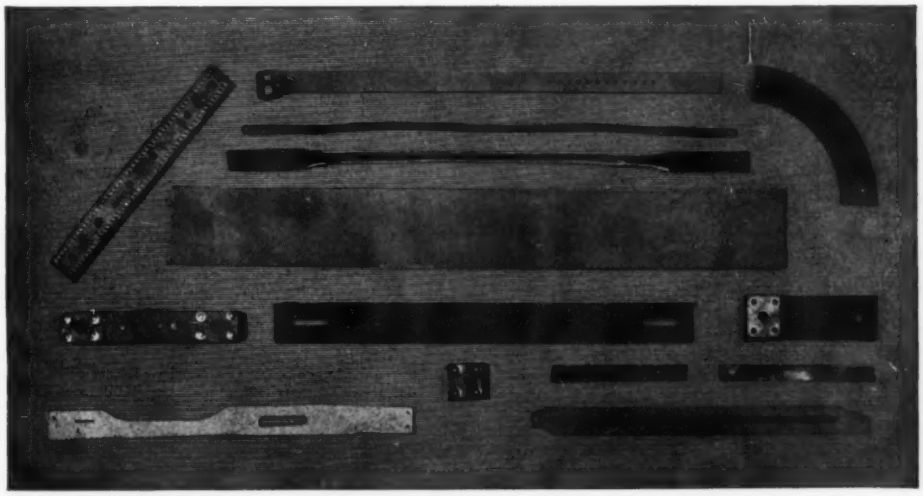
For maximum wear Resistant to oil and heat, Cut from Firm First Quality Center Stock, Uniform in thickness, Flexible — minimum stretch, Processed round or flat, Punched to specifications, ALL SIZES,

OAK and HAIR-ON (G.O.G.) CHECK STRAPS

Resistant to oil and heat, Cut from Firm First Quality Center Stock, Minimum stretch —prestretched, Slotted to specifications, 3/16 inch or two-ply 3/8 inch, ALL SIZES

HAIR-ON MINERAL TAN (G.O.G.) GAM-OIL PICKER STRAPS

Oil resistant. Cut from First Quality Stock. Minimum stretch, Furnished either dry or oily. ALL SIZES



HENRY K. BARNES COMPANY • SALEM, MASSACHUSETTS

BARNES THE *Textile Leather* HOUSE SINCE 1876

Where unusual knowledge of Leather is combined with long years of Textile experience

APRONS—BELTING • FLAT • ROUND • & ACCESSORIES—STRAPPING

KINKS & SHORT-CUTS

(Continued from page 158)

are required: (1) a means of moving the rails and holding them in the desired position until they are firmly anchored to the samsons of the frame; (2) a rule which will accurately measure the distance through which each end of the rail section is moved.

A device for accomplishing these two requirements consists of one cross member and two vertical members, as shown in the sketch.

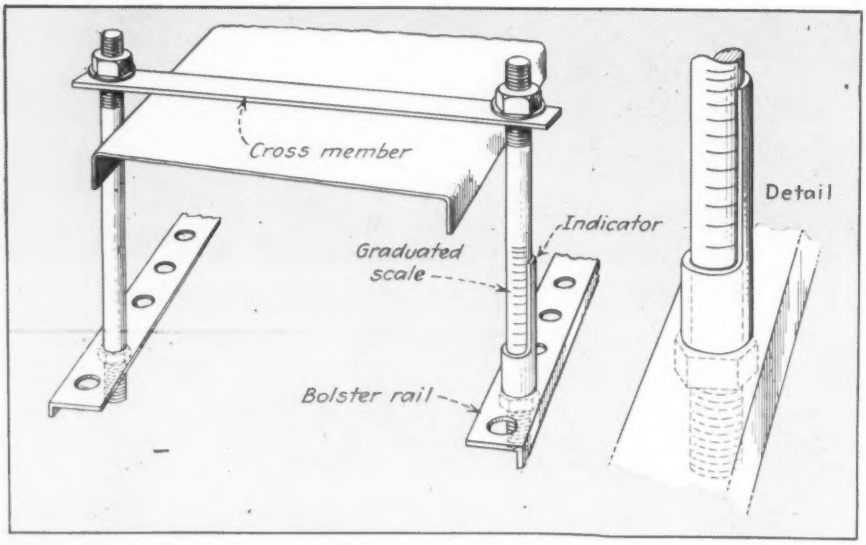
The cross member is made from a flat piece of steel approximately 1½ in. wide and any convenient thickness, as ¼ in. It must be long enough to reach across the bottom creel board of the frame and extend beyond the thread guides on each side of the frame. A hole, in plumb with a spindle base hole in the bolster rail, should be bored in each end of the cross member.

The two vertical members may be made from a piece of steel rod ½ in. in diameter. Each must be long enough to pass through the hole in the end of the cross member and through the spindle-base hole in the bolster rail immediately below. The rods should extend about 2 in. beyond the cross member and rail, and each end should be threaded for a nut.

On the shank of the vertical members should be a measuring scale graduated in sixteenths of an inch. An indicator, having a circular base to slip over the vertical member and rest steadily on the bolster rail, rises or falls along the graduated scale as the rail is raised or lowered.

Two sets of this assembled device will be needed to support and move both ends of a rail section. To operate, place the cross members, one at each end of a rail section, through the frame creel. Extend the vertical rods through the holes in the ends of the cross member and through corresponding holes in the bolster rails. Screw the nuts tight on each end of the four rods. Level with a bead leveler.

The rails are now ready for moving. Check the reading on the measuring scale, and detach the bolster rail from the frame. Raise or lower the rail by screwing or unscrewing the nut at the upper end of the rod on top of the cross member. Move the rail to the desired position by manipulating the upper nut on each rod in succession, constantly checking the measuring scale. When the final position has been reached, level the cross member with the bead leveler. Secure the rail to the frame and remove the device. (K-339)



Move rail by screwing or unscrewing nut at top of rod.

Jar Mixer Simplifies Laboratory Problems

An all-purpose laboratory mixer of pint, quart, or two-quart capacity may be made by putting a top on standard mason jars. When changing batches, it is necessary only to clean the agitator. In the photograph, a hot plate is shown in the background. The usual method of heating is by water bath on the hot plate. The reflex condenser prevents loss of solvents when heating.

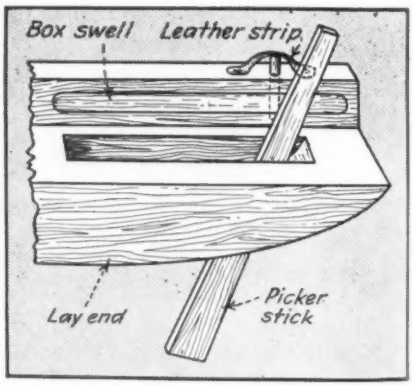
Very little material is required to build the mixer. It is constructed with angle irons, a top platform of wood, and a metal-covered wooden base. A mason jar cover is inserted in the top of the platform and mixing jars are screwed into it. An electric mixer is placed so that the shaft projects through a tubular bushing in the jar top. An adjustable chuck allows the agitator to be raised or lowered. A funnel, which is corked during operation, permits materials to be added during mixing. A reflex condenser returns volatilized solvents to the mixture. Another model uses a motor with a reduction gear for relatively viscous materials.

Liquid or dry materials may be added during mixing.

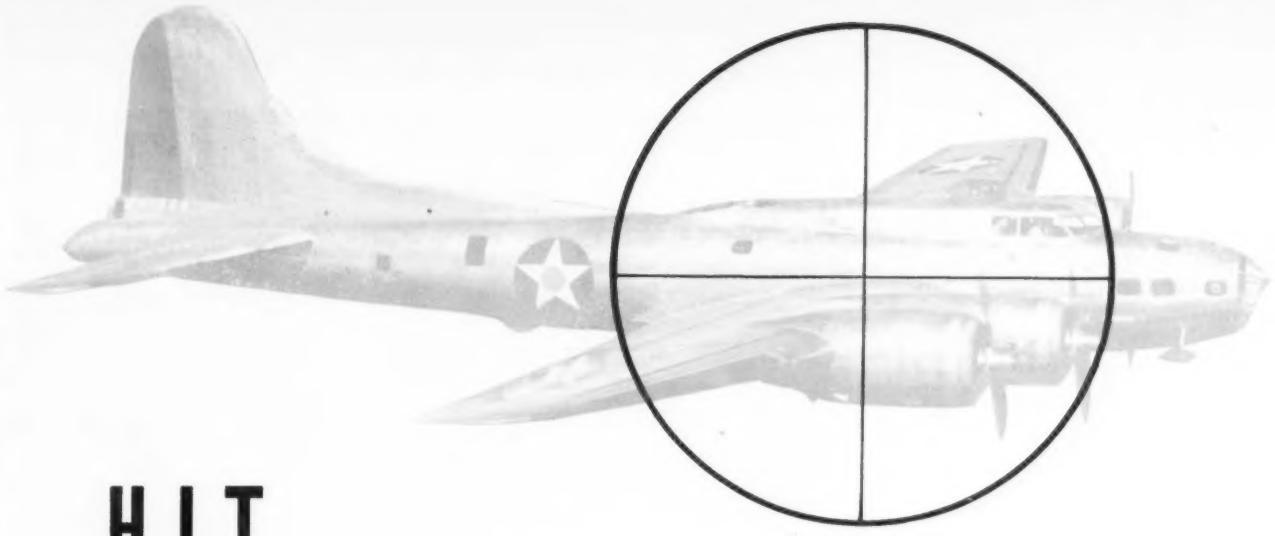
John Bennett, The Pantasote Co., Passaic, N. J., has made easy-to-follow specifications available to the trade and will send blue prints to anyone who may request them. (K-338)

Leather Strap Keeps Box Pins in Place

It occasionally happens that the steel or fiber pins on looms having wooden lay ends work out of place and allow the binders to come free. This causes loom bang-offs, broken and damaged shuttles, and damaged binders. The



A 1 x 3-in. leather strap, tacked over pin, holds it in place.



HIT THE TARGET!

CONTROL is the bombardier's watchword. Perfect control means "hitting the target."

Dixie Durene depends on control, too, for maintaining its high standards of quality—so necessary for smooth operation of knitting machines.

Actually a product of "Controlled Manufacture," Dixie Durene employs no hit-and-

Dixie Durene
A PRODUCT OF CONTROLLED MANUFACTURE

miss methods. Dixie precision-made yarns "hit the target" by winning consumer friendships . . . more sales.

Now, Dixie's output is going into products for the Army, Navy and Marines, all over the world. But if your post-war aims are high, Dixie Durene will prove a real sales builder for you in after-the-war markets. Be sure to include it in your plans.

Dixie MERCERIZING COMPANY, CHATTANOOGA 1, TENNESSEE

KINKS & SHORT CUTS
(Continued from page 160)

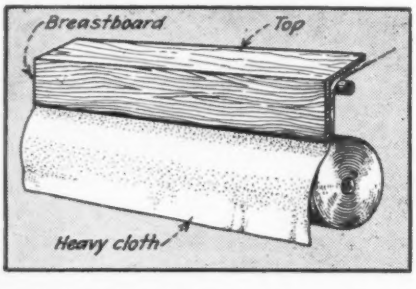
illustration shows one method of keeping plain-side shuttle-box pins from rising out of their proper places while the looms are running.

A small strip of leather, approximately 1 x 3 in., tacked above the steel pin will hold the pin in place. Check-strap discards, trimmed to the thickness of shoe leather, can be used. Even though tight-fitting pins seem to hold securely, it is advisable to cover them with leather. *(K-313) H. E. Wenrick, Berwick, Pa.*

Protective Covering Keeps Woven Cloth Clean

The best way to keep the cloth on the cloth roll of a loom clean is to fasten one side of a piece of heavy cloth about 1-yd. square to the breastboard of the loom, and let the other side swing down over the cloth roll. Dirt and dust particles will collect on the protective covering, and the cloth on the roll will remain clean. When the cut of cloth is taken off the loom, a piece of heavy paper should be placed on the floor in front of the loom to lay the roll on. This prevents the cloth from getting soiled on the oily floor.

These precautions are very simple but will help a great deal in keeping the cloth clean. *(K-270) E. R. Spuehler.*



Protective cloth is fastened to the breastboard of the loom.

Solvent Quickly Removes Glaze from Drive Gear

Usually when a loom runs for an indefinite period of time, a highly polished glaze will form on the face of the gear, caused by making contact with the friction plate. The best method the writer has found practical in removing this glaze without taking the gear from the loom is as follows:

Remove all excess grease and oil from between the gear face and friction plate and remove hardened grease by using a petroleum solvent. While the loom is idle and the gear running, pour the solvent between the gear and friction plate. While pouring, it is best to remove the shuttle from the loom and move the lay forward until the protector daggers strike the knock-off blocks. Working the shipper handle on and off will loosen the hardened grease and oil.

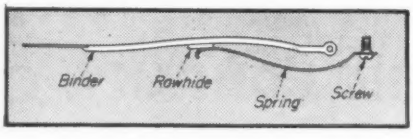
Select a sheet of emery cloth with a coarse grit, and insert the cloth between the gear and the friction plate. Work the shipper handle on and off, stalling and releasing the motor several times. Continue this procedure until the glaze is removed, but avoid overheating the motor.

On starting full operation, the friction plate will have a quicker grab and the loom smoother power. *(K-328) John L. Bove, Hazelton, Pa.*

Rawhide Prevents Wear on Binder Parts

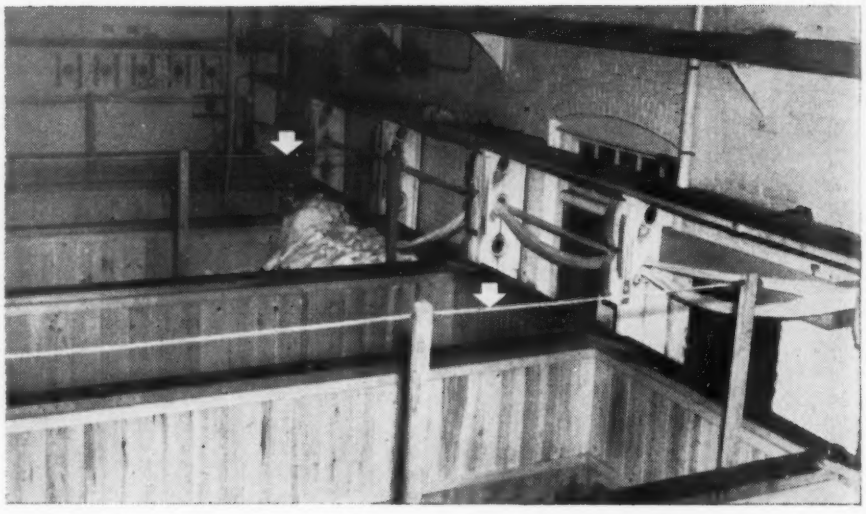
An excellent idea to save wear on binders and binder springs on any looms that have flat springs is to use a piece of soft raw-hide lacing between binder and spring.

Place the rawhide under the spring



Piece of rawhide retains oil and prevents wear.

Hand Ropes Added for Safety



Bleachery workers often must walk the narrow tops of the partitions between bins. To prevent them from falling into the bins, supports were fastened to the sides and ropes were strung as shown. Workers now have a hand grip to aid in balancing themselves. (K-335)

point where it presses against the binder. Rawhide used in this manner will prevent a hole from wearing into the steel binder due to the spring tension.

Rawhide retains a certain amount of oil and thus avoids the need of frequent oiling. *(K-322)*

Line-Current Calculator Determines Wire Needed

Plant engineers and electricians will find this line-current calculator useful for quickly determining amperes that will flow in motor and transformer circuits.

The single phase unit solves the equation:

$$I = \frac{Hp \times 746}{E \times PF \times Eff} \text{ (for motor current)}$$

$$I = \frac{Kva \times 1000}{E} \text{ (for transformer current)}$$

Where E is voltage between line wires

PF is power factor

Eff is efficiency—87.5% assumed

Three-phase equations solved by the three-phase unit are the same as above except that the denominator of the fraction includes $\sqrt{3}$.

Suppose a 5-hp., single-phase, 220-volt motor is to be installed. Set the dial accordingly — assuming 80% power factor, you see opposite 80 approximately 24 amps. Now suppose a 15-kva., three-phase, 440-volt transformer is to be installed. Set the dial properly—opposite kva amps read ap-

THUMBS UP

FOR BETTER PROCESSING

ALL THE WAY DOWN THE LINE...

Fybrolize

For the processing of every kind of wool and worsted knitting and weaving yarn there's a specific type of Fybrol available to meet your special requirements. Standardize on Fybrol for these advantages:

Uniform Fibre Lubricity • Ready Scourability • Non-Separating Emulsions • Increased Yield • Lofty Yarn • Reduced Fly Waste • Static Prevention • Improved Efficiency in Combing, Carding, Drawing and Spinning

Try a drum of Fybrol under your own mill conditions—and compare the results.

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Special Service. *If you have an oiling problem on which a Sonneborn field technician can help, write us. We'll gladly send the right man to your mill or your laboratory. No obligation.*

Fybrol

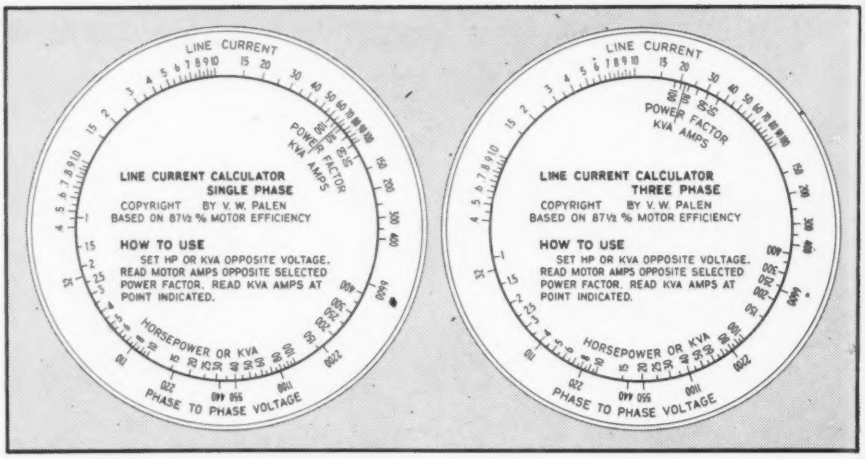
America's No. 1 Wool and Worsted Processing Oils

KINKS & SHORT CUTS

(Continued from page 162)

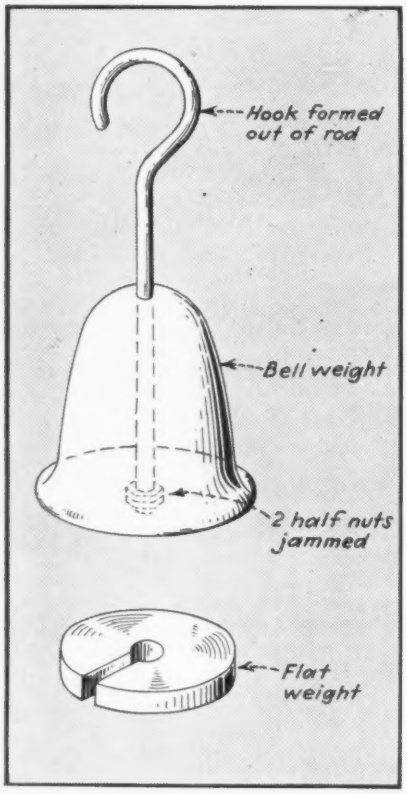
proximately 20 amps. With the line current thus determined, proper wire size can be selected to carry the load.

Several voltages that are seldom used around plants are included for the convenience of those who might have occasion to utilize them. *(K-173)* V. W. Palen.


LINE CURRENT
LINE CURRENT CALCULATOR
SINGLE PHASE
COPYRIGHT BY V. W. PALEN
BASED ON 87½ % MOTOR EFFICIENCY
HOW TO USE
SET HP OR KVA OPPOSITE VOLTAGE. READ MOTOR AMPS OPPOSITE SELECTED POWER FACTOR. READ KVA AMPS AT POINT INDICATED.
POWER FACTOR
KVA AMPS
HORSEPOWER OR KVA
PHASE TO PHASE VOLTAGE
LINE CURRENT
LINE CURRENT CALCULATOR
THREE PHASE
COPYRIGHT BY V. W. PALEN
BASED ON 87½ % MOTOR EFFICIENCY
HOW TO USE
SET HP OR KVA OPPOSITE VOLTAGE. READ MOTOR AMPS OPPOSITE SELECTED POWER FACTOR. READ KVA AMPS AT POINT INDICATED.
POWER FACTOR
KVA AMPS
HORSEPOWER OR KVA
PHASE TO PHASE VOLTAGE

To assemble the calculators, cut along the inner and outer circles to make two rings and two discs. Mount these pieces on separate pieces of cardboard using rubber cement. Punch the center holes carefully. Insert brass bolts (with washers) to hold the parts together. Add nuts to the bolts and tighten—the disc should turn easily yet hold their setting. A drop of solder on the nuts makes the assemblies permanent.

Hook Is Used for Holding Bell Weight



Slip up bell weight to add flat weight quickly.

When tensioning a new warp with ropes, bell weights are often used. A knot is tied on one end of the rope after it is inserted through the hole in the center of the bell weight. The knot will usually form a bulge under the weight and ordinarily will cause a rocking motion as the lay beats against the fell of the cloth.

When this condition exists, all kinds of trouble are likely to happen to the cloth, such as shires, loose marks, and many other defects which can be avoided if the weights are properly adjusted.

The method we use to eliminate the rocking motion is shown in the illustration. A length of $\frac{3}{8}$-in. cold-rolled steel (or discarded $\frac{3}{8}$-in. or $\frac{7}{16}$-in. picker spindles) is very suitable for this purpose. Cut threads on one end of the rod just enough to take a $\frac{3}{8}$-in. or $\frac{7}{16}$-in. nut. Then form a hook on the opposite end. Now, insert the rod through the hole in the bell weight and apply a nut. If desired, the nut can be sawed in half and one-half can be jammed against the other so they will not work loose.

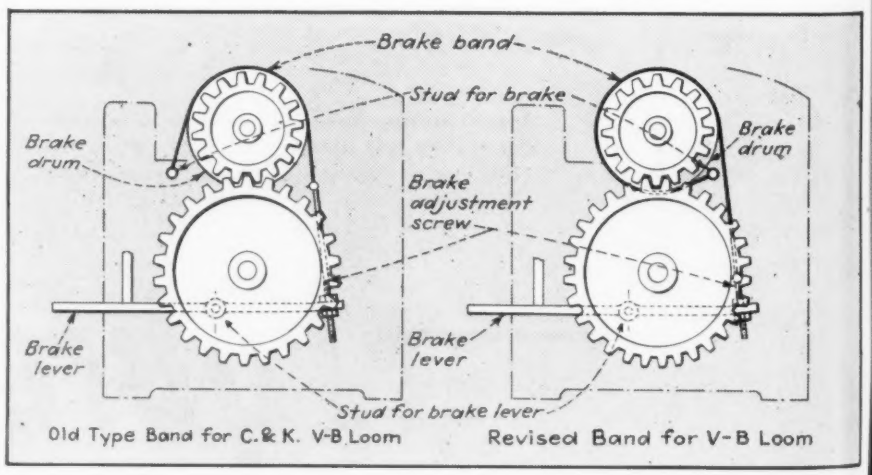
If more weight is needed, the bell weight can be raised and a flat round weight can be slipped under it without trouble. *(K-296)*

Change in Stud Permits Use of Longer Brake Band

The accompanying drawing shows the old type of brake band used on C&K Very Best looms, and also shows a revised set-up. We have had a lot of trouble with this type of loom rolling over; and since other users of this type loom may have a similar problem, I hope this sketch will help them.

For the new set-up, take the stud out. Then you will note a doll pin on the back side of the loom to hold the bracket for the drive shaft to the head motion. Drive that pin out and drill the hole to $\frac{3}{4}$ in. for a stud. Then turn down the stud to allow the band to be put on and the stud to be put in place. Drill a cotter-pin hole in the stud to keep the band centered.

For the brake band, I use an old one from our W-3 looms and cut it to fit around the brake drum. I also use a stud with a cotter pin where the adjustment screw attaches to the brake band, so that if the band gets oily I take this stud out and can clean the band without taking it all apart. I have found this set-up works well and improves both the loom production and start-ups. *(K-311)*

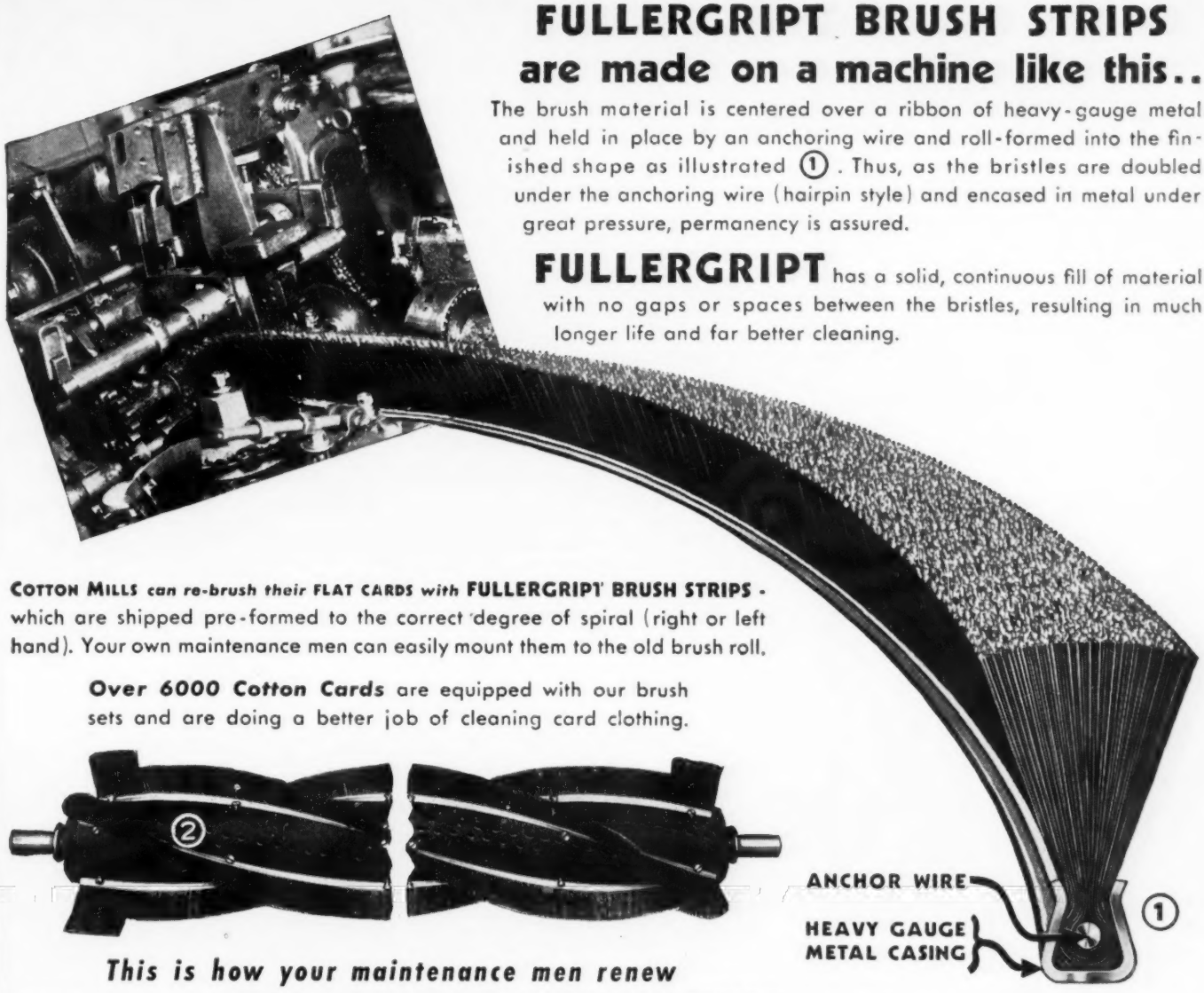


New stud should be fastened with cotter pin for ease in removal.

FULLERGRIPT BRUSH STRIPS
are made on a machine like this..

The brush material is centered over a ribbon of heavy-gauge metal and held in place by an anchoring wire and roll-formed into the finished shape as illustrated ①. Thus, as the bristles are doubled under the anchoring wire (hairpin style) and encased in metal under great pressure, permanency is assured.

FULLERGRIPT has a solid, continuous fill of material with no gaps or spaces between the bristles, resulting in much longer life and far better cleaning.



COTTON MILLS *can re-brush their* **FLAT CARDS** *with* **FULLERGRIPT BRUSH STRIPS** - which are shipped pre-formed to the correct degree of spiral (right or left hand). Your own maintenance men can easily mount them to the old brush roll.

Over 6000 Cotton Cards are equipped with our brush sets and are doing a better job of cleaning card clothing.

This is how your maintenance men renew your worn-out card brushes with FULLERGRIPT STRIPS Put worn card brush roll in lathe centers. Trim off old tufts of bristles with a sharp knife. ② Sand-paper the roll. Apply two coats of black shellac. Drill screw holes on 8″ centers and fasten the spiralled Fullergript Brush Strips with the special screws furnished with each set of strips.

EVERY WEEK some *COTTON MILL* in the United States installs one or more sets of *FULLER FLAT CARD BRUSH STRIPS*

Manville Jencks, Manville, R. I.

THE FULLER BRUSH COMPANY
INDUSTRIAL DIVISION, DEPT. 8C, 3594 MAIN ST., HARTFORD 2, CONN.

THIS IS NO. 51 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

AUTOMATIC SIZING MECHANISM (Roto-Coner*)

Automatic sizing of the winding package to produce cones or tubes of uniform diameter — spindle for spindle, package for package — can be accomplished by equipping the Roto-Coner* with the Automatic Sizing Mechanism (Fig. 1.).

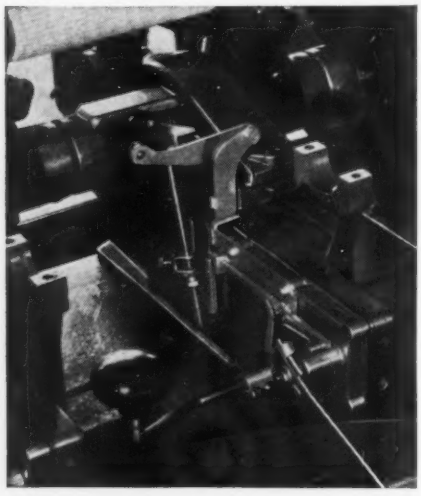


Fig. 1. Automatic Sizing Mechanism

This mechanism relieves the operator of using hand gauges or having to estimate the package diameter by eye. It is especially advantageous when an operator tends many spindles, because her distance from any spindle does not make any difference.

The device is actuated mechanically, and there is no pressure on the package while actual winding is going on.

Setting is easily made so that the spindle will knock off at a predetermined package diameter. A package of the required diameter is used as a gauge; with the machine stopped, the mechanism is adjusted to fit this package.

As the winding package builds up in diameter, the Cone Holder will move away from the Rotary Traverse, causing the Cone Holder Bearing (A in Fig. 2) to be tipped backward. The Slide Arm (B), being connected to the Bearing is raised; this, through a Connecting Rod (C), lifts the Vertical Slide (D) in which there is a notch (D_1). When the Vertical Slide becomes elevated to the predetermined height, the Trip Rod Assembly (E) snaps into the notch, actuating the Breakage Lever (F) so that the Cone Holder will be lifted entirely free of the Rotary Traverse.

To prevent the package from continuing to rotate and scrambling the yarn, the Automatic Sizing Mechanism further provides a means of stopping the package. As the Cone Holder keeps rising, it will continue the elevation of the Vertical Slide (D) which will press the Brake Pad Assembly (G) onto the surface of the package, instantly stopping its rotation.

Brake Pads of different shapes are provided for cones and tubes. The mechanism works equally well with either type.

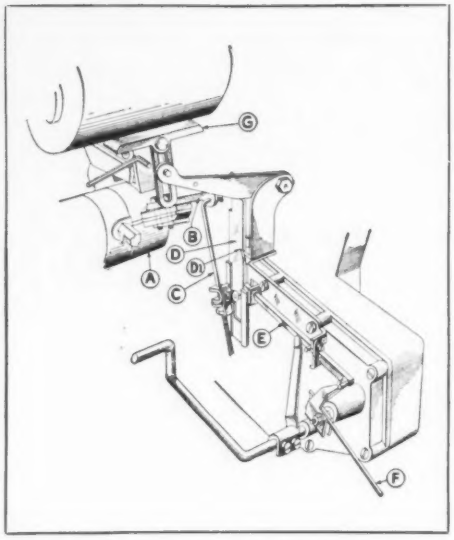


Fig. 2. Assembly Details of Automatic Sizing Mechanism

HIGH LIFT PAWL (No. 60 Doubling Machine)

The Universal No. 60 Doubler has an effective braking mechanism which applies the brake directly against the spindle when an end runs out or breaks. Thus, there is no possibility of chafing the yarn.

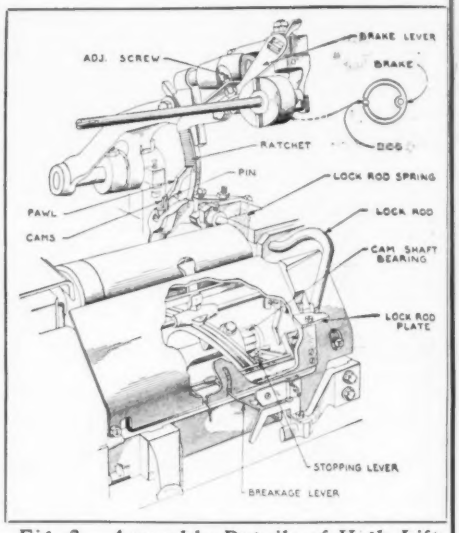


Fig. 3. Assembly Details of High Lift Pawl

Many of these machines have been in constant operation giving efficient service over a period of a great many years. All new or recently manufactured Doublers are provided with a new High Lift Pawl which allows extra clearance when the cone is lifted from the Traverse. It sets the brake positively. If present pawls are worn, the new pawl is available for replacement and may be applied to any existing machine.

The High Lift Pawl (Fig. 3) is simple in action. When an end breaks or runs out, the Breakage Lever drops, thereby lifting the Stopping Lever into contact with the Cam Shaft Bearing. The resulting slight impact unlocks the Lock Rod from the Lock Plate, thus allowing the Lock Rod Spring to contract. This draws the Pawl against the Ratchet and lifts the package.

There are two small Cams (one on each side of the Pawl) which act as slides for a fixed pin driven through the Pawl. When the Lock Rod Spring contracts, it not only draws the Pawl against the Ratchet but also, with the aid of the Cams, forces it to be elevated to its highest point, giving the Spindle a high lift.

The Brake Lever is tilted as it is pressed upward by the Pawl; the Adjusting Screw is pressed down against the Brake Dog, the Brake is quickly and effectively set, and the Spindle is stopped.

*Reg. U. S. Pat. Off.

See our Catalog in TEXTILE WORLD YEARBOOK
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UNIVERSAL WINDING COMPANY

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Pete & Bill

A Conference, or Just Fish Stories?

Should an overseers' meeting be run informally, or laid out on the conference method with a selected chairman?

WELL, BILL, THAT WAS THE SADDEST OVERSEERS MEETING I EVER SAW. NO DECISIONS. JUST A BULL-SESSION WITH NO HITS, NO RUNS, AND NO ERRORS.
DON'T BE SO SERIOUS, PETE. WHAT IF IT WAS A LOUSY MEETING? YOU COULDN'T DO ANY BETTER IF YOU WERE THE OLD MAN, COULD YOU?
1
YES. I WOULD RUN THAT MEETING ON THE CONFERENCE METHOD— WITH SOME EFFICIENCY. OUR OVERSEERS' MEETINGS ARE TOO SLOW AND OLD-FASHIONED FOR THESE DAYS OF P-38s AND B-29s.
YOU'RE JUST DREAMING, PETE. OVERSEERS ARE HUMAN BEINGS— JUST LIKE THE HELP. IT TAKES TIME TO GET THINGS DONE AND DECISIONS MADE WHEN YOU'RE DEALING WITH PEOPLE
2
THAT'S THE POINT, BILL. THE CONFERENCE METHOD IS THE ACCEPTED WAY TO GET THINGS DONE WITH PEOPLE. WITH AN APPOINTED LEADER- NOT NECESSARILY THE SUPER- IT BEGETS ORDERLY DISCUSSION AND DECISIONS
ALL RIGHT, BILL. SUPPOSE I'M THE OVERSEER OF SPINNING, AND THE WEAVING OVERSEER IS CHAIRMAN OF THE MEETING- WHAT CHANCE DO YOU THINK I'D HAVE TO GET MY PROBLEMS CLEARED THROUGH PROPERLY?
3
THE BEST CHANCE YOU EVER HAD. WE WOULD ALL BECOME EDUCATED TO THE OTHER FELLOW'S PROBLEMS; AS A RESULT, WE WOULD WORK TOGETHER BETTER FOR THE INTERESTS OF THE COMPANY. WHAT ABOUT IT, JOE?
YOU'RE ON THE RIGHT TRACK, PETE. I GET TIRED OF HEARING THOSE FISH STORIES MYSELF. GET UP A CHAIRMAN; LET THE OVERSEERS ROTATE IN THE JOB. THAT BUILDS RESPONSIBILITY AND LEADERSHIP- AND GETS THINGS DONE.
MR. READER, WRITE US A LETTER- AM I RIGHT?
4

Letters From Readers

Hands it to Women in Industry

"Women as Section Hands"
(Pete & Bill, May 1945)

Dear Pete & Bill:

Yes, Pete, I agree with you there is nothing like trying old hands at almost anything, especially the women. Nowadays it will surprise men in textile mills to find out how they use their heads. Well, Bill, you have to hand it to the women these days. I do hope they will not be pushed back after the war is over. Dear Pete, Bill, and Joe—you are surely coming out in your old days, driving home in your car. Keep it up, I like your stuff first class. (PB504)

Are We Going Back to the Indians?

"Women as Section Hands"
(Pete & Bill, May 1945)

Dear Pete & Bill:

I believe a woman can do anything a man can do, and will succeed as a section hand in spinning. But have we lost respect for our women? Have we lost respect for the law of nature? What is to become of the men? Are they to return to primitive times, as the American Indian, to lay curled in a blanket while the women till the field? Only 30 years ago we criticized the Indian for the same things we are encouraging our women to do today. Years ago when I was a section hand in the spinning room, we received less than $10.00 for 58 hours work. Yes, I believe a woman could be a success the same as I was; be up to her neck in oil and grease; be that loaded-down individual. But I don't want to see that day.

Aircraft plants have them, yes, and they are a success. But the spirit and morale of men have been hurt. I know because I gave textiles up and went into aircraft, and have heard

thousands of men express their feelings. Pete reminds me of a good many mill overseers I know. Right in his department is some man or young fellow the ambition of whose life is to use those wrenches, tools, and gadgets, and run a section. Broaden out your mind, Pete. Let's encourage the women back to the knitting needle and crochet hook, making little things to brighten the home. (PB503)

Merit Rating Plan a Success

"Does Merit Rating Reduce Turnover?"
(Pete & Bill, April 1945)

Dear Pete & Bill:

Progressive plants are highly in favor of a merit-rating system to minimize labor turnover. Not only does such a plan "give credit where credit is due" but it also tends to keep "the family happy and intact." Actually, it breeds a better relationship between management and labor, thereby insuring a most efficient production yield.

Another method whereby the labor turnover is kept at a minimum is the so-called "employees' profit-sharing plan." Under this setup all employees who meet certain requirements are duly rewarded for their services by being given stock in the corporate organization or equivalent money value thereof.

There is no question that management must strive to keep the goodwill of its employees in order to control labor turnover. The policy of a well-organized management is to plan for the future as well as the present. (PB500)

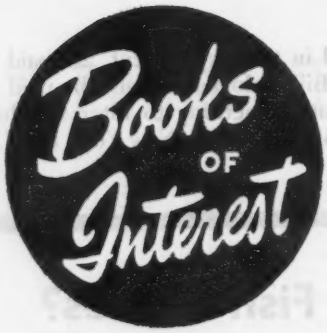
Home Ownership for Security

"Ownership of Mill Village"
(Pete & Bill, Oct., 1944)

Dear Pete & Bill:

"Be it never so humble, there's no place like home." When old age stares a man in the face, his first thought is, what is my security? There is no better way to build a more conscientious worker than to give him the feeling that he is an integral part of community and plant in which he lives and works.

A mill that is losing money on its village is doing so because the people in it have no desire to help maintain the premises. If the person knows that by proving himself worthy of the trust he may own this home, deterioration will show a decrease. A man will protect his own property, but very few will be careful of the other man's, especially if he thinks the other is making money at his expense. (PB206)



Monograph Series on Formaldehyde

FORMALDEHYDE, by J. Frederic Walker; Reinhold Publishing Corp., 330 W. 42nd St., New York 18; 371 pages; $5.50.

Another in a series of monographs of the American Chemical Society has been issued, this one covering formaldehyde chemistry. For those textile chemists who desire a knowledge of this product, both as to its manufacture and as to its many chemical properties and extensive uses in industry, this book is recommended. Such items as formaldehyde polymers; reactions of formaldehyde with practically all chemical groups, both organic and inorganic are covered in great detail; detection of and estimation of formaldehyde in small quantities; and use of formaldehyde, formaldehyde polymers, and hexamethylenetetramine are only a portion of the material covered in this book.

The section devoted to the use of formaldehyde in the textile industry covers application in the treatment of cellulosic fabrics, for crease and crush-proofing, for reducing water sensitivity and for obtaining an increase of water affinity, for improvements relating to dyeing and dyed fabrics, and in the production of protein fibers.

Yarn-Numbering System From Canada

INTEGRAL, A NEW YARN-NUMBERING SYSTEM, by Squire Blackshaw; Quebec Provincial Arts & Crafts Schools, 7345 Garnier St., Montreal, Quebec, Canada. Free.

The author, an instructor in cotton manufacturing, proposes for universal adoption by all branches of the industry a yarn-numbering system based on a "wrap" of 700,000 yd. and a "wraplet" of 100 yd. The weight in pounds of one wrap is the number of the yarn. Since there are as many wraplets per wrap as there are grains in a pound, the weighing of one wraplet on a grain scale gives the yarn number instantly, without calculation. This is a direct system, in which high numbers indicate coarse yarns; and most yarn numbers require no fractions—hence the term "integral" as the name of the system.

Other Publications

JOB SAFETY TRAINING MANUAL, By Kenneth L. Faist and Stanton M. Newkirk; National Foreman's Institute, Inc., Deep River, Conn.; Loose-leaf binder; $5.00.

1944 BOOK OF A.S.T.M. STANDARDS; Part I, Metals; Part II, Nonmetallic Materials—Constructional; Part III, Nonmetallic Materials, General—Fuels; American Society for Testing Materials, 260 South Broad St., Philadelphia 2; (Three parts contain over 1,200 specifications and tests, 6,000 pages) $10.00 per part.

OPPORTUNITIES FOR TRAINING Men and Women in the Textile and Related Industries; The Textile Foundation, Washington, D. C.

IMPROVEMENT OF LABOR-UTILIZATION PROCEDURES, Bulletin No. 807 by United States Dept. of Labor; Superintendent of Documents, U. S. Government Printing Offices, Washington 25, D. C.; 44 pages; 10c.

HOW TO ESTABLISH AND MAINTAIN A PERSONNEL DEPARTMENT; American Management Association, 330 West 42nd St., New York 18, 112 pages.

PRACTICAL INTERNATIONAL FINANCIAL ORGANIZATION THROUGH AMENDMENTS TO BRETTON WOODS PROPOSALS; American Bankers Association, 22 East 40th St., New York; 47 pages.

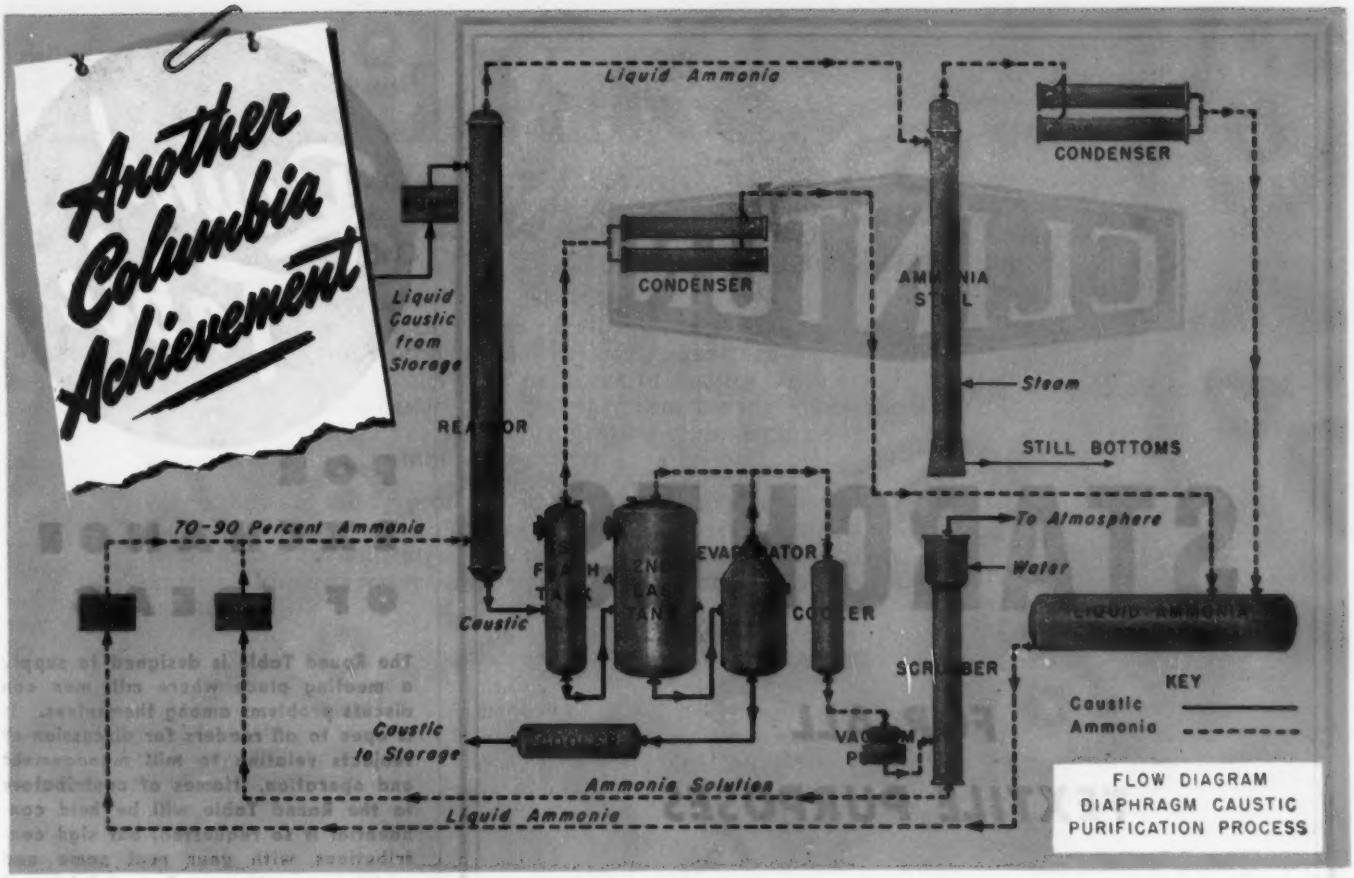
In Your Hands

lies part of the solution to a No. 1 war material shortage. Yes . . . paper! Thousands of tons of paper are going to the Pacific war as packaging for the thousands of items our fighters need. And that war paper won't come back! With so many lumberjacks in the army and pulpwood supplies critically short, there's only one other place where Uncle Sam can look for the paper to make or wrap over 700,000 war items. That's to you. So here's what you can do to help.

Pass this magazine along to your friends. Put a note on it . . . LAST READER TURN IN FOR PAPER SALVAGE, unless it is to be preserved for reference.

Dig out those piles of old magazines in your attic, cellar or storage room. Bundle up every one you can for the next collection.

. . . It's in your hands!



Conversion of diaphragm electrolytic to high grade Caustic Soda

Columbia's patented purification process for diaphragm electrolytic Caustic Soda has been an important factor in supplying essential industries.

The manufacture of numerous products—notably rayon and chemicals—requires Caustic Soda of the highest purity. The increasing demands in these fields made imperative the development of facilities to meet these needs.

Columbia's unique method of purification removes all undesirable quantities of sodium chlorate and sodium chloride. The result is Caustic Soda of exceptional purity—ideal for any of the more exacting usages.

This is but one of the more recent accomplishments which distinguish Columbia as a producer of alkalies and related chemical products . . . and which recommend Columbia for your consideration as your supplier.

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PITTSBURGH PLATE GLASS COMPANY • COLUMBIA CHEMICAL DIVISION

GRANT BUILDING, PITTSBURGH 19, PENNSYLVANIA

Chicago • Boston • St. Louis • Pittsburgh • New York • Cincinnati • Cleveland • Philadelphia • Minneapolis • Charlotte • Los Angeles

COLUMBIA ESSENTIAL INDUSTRIAL CHEMICALS

Soda Ash • Caustic Soda • Sodium Bicarbonate • Liquid Chlorine • Silene EF (Hydrated Calcium Silicate) • Calcium Chloride • Soda Briquettes
Modified Sodas • Caustic Ash • Phosflake • Calcene T (Precipitated Calcium Carbonate) • Calcium Hypochlorite

CLINTON

STARCHES

FOR ALL

TEXTILE PURPOSES

★

QUALITY

AND

SERVICE

★

CLINTON

COMPANY

CLINTON, IOWA

Round Table

FOR EXCHANGE OF IDEAS

The Round Table is designed to supply a meeting place where mill men can discuss problems among themselves. It is open to all readers for discussion of subjects relating to mill management and operation. Names of contributors to the Round Table will be held confidential if so requested, but sign contributions with your real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table, Textile World, 330 West 42nd St., New York 18, N. Y.

Reader Questions Knitting Centennial

Your editorial, Plan for Insuring Prosperity [March, page 4], was so interesting and thought-provoking that I called attention to it at our Labor-Management meeting.

Textile World has such a fine reputation for accuracy that "1945 Believed Centennial of American Circular Knitting" (TEXTILE WORLD, April, page 104) came as a surprise. I was pleased to have the drawing and fine disclosure of the way the French machine operated. This patent copy was missing from the files of the Boston Public Library when I looked for it in 1940, as per my record.

You may be interested to have the following items:

THE LATCH NEEDLE

From the U. S. Patent Office Library: Brevets Invention, 1re Series, Vol. 2, p. 200 and Vol. 21, p. 350 of the French Patents. Pierre Jeandeau, Mar. 15, 1803, No. 137, with two additions to the original patent dated Apr. 3, 1804, and the last Patent No. 1900 of Apr. 25, 1806 has a good illustration of a latch needle.

James Hibbert, U. S. Patent of

Powell Valves
comin' through

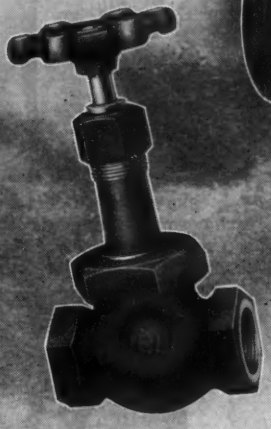
Every day thousands of valves of all types, designs and materials are "comin' through" the various stages that make the name "Powell" on a valve the hallmark of quality. Into every step—from perfect casting to final merciless testing—goes the KNOW-HOW of 99 years of concentration on making valves—and valves only—for industry.

When they are finally pronounced worthy in every detail to bear the Powell name, they go out to join the hundreds of thousands of their family who are "comin' through" with flying colors under all kinds of service conditions in every branch of American industry.

1453

457

1469



171

Fig. 457—125-pound All Iron Globe Valve with flanged ends, outside screw stem, bolted flanged yoke and regrindable, renewable iron disc.

Fig. 1469—125-pound All Iron Quick Opening Gate Valve with flanged ends, sliding stem and bolted flanged yoke.

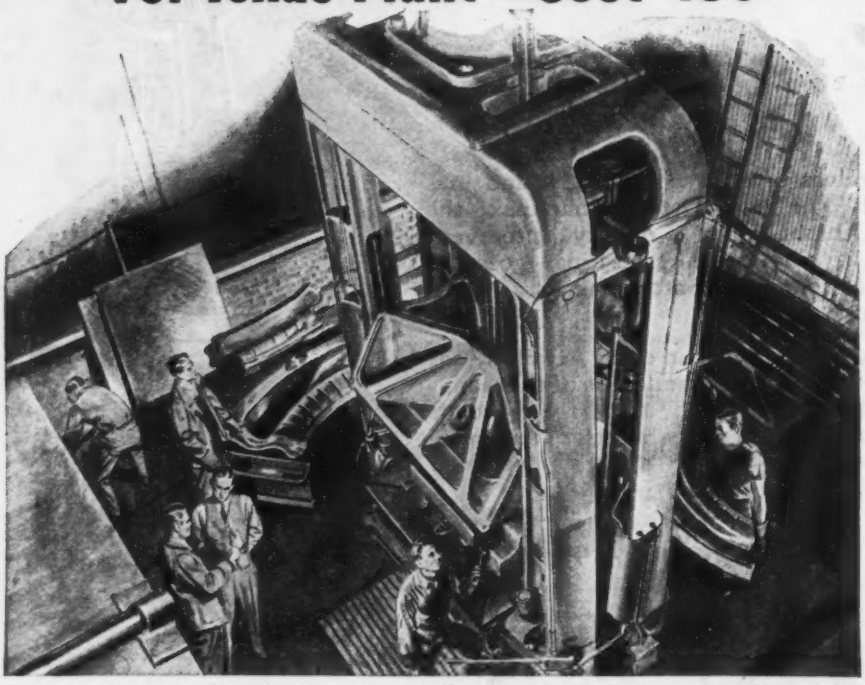
Fig. 171—150-pound All Iron Globe Valve with screwed ends, union bonnet and regrindable, renewable iron disc.

Fig. 1453—125-pound All Iron Gate Valve with flanged ends, outside screw-rising stem, bolted flanged yoke and taper wedge double disc. Also available with solid disc—Fig. 1816.

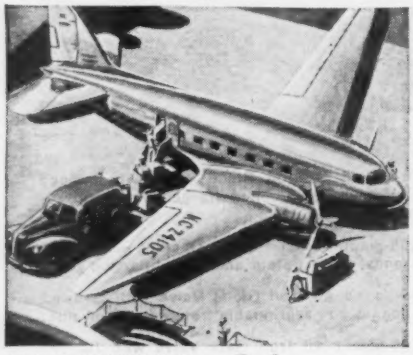
The Wm. Powell Co., Cincinnati 22, Ohio

POWELL VALVES

Air Express Saves $2,000 For Texas Plant – Cost $180



2 P.M. TUESDAY— Drop-hammer press breaks down in Texas war plant. Nearest replacement part is in the East, over three normal shipping days away. To avoid costly shutdown, the manager telephones for a new part via Air Express, even though the part weighs 250 pounds.



7 A.M. WEDNESDAY — Replacement part lands at Texas airport. Air Express charges were $180. But manager figures a saving to the plant of three precious production days and a saving of $2,000 in overhead by avoiding a shutdown.

FIGURE IT OUT yourself. How much would it cost you per day if your business — or a part of it — came to a standstill for lack of essential parts or material? Remember, the nation's inventory is within hours of your door, via Air Express.

Specify Air Express — Low Cost for High Speed

25 lbs., for instance, travels more than 500 miles for $4.38, more than 1,000 miles for $8.75, more than 2,000 miles for $17.50, at a speed of three miles a minute — with cost including special pick-up and delivery in all U. S. cities and principal towns. Same-day delivery between many airport towns and cities. Rapid air-rail service to 23,000 off-airline points in the United States. Direct service to scores of foreign countries.

AIR EXPRESS

AIR EXPRESS

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Write Today for "Quizzical Quizz," a booklet packed with facts that will help you solve many a shipping problem. Railway Express Agency, Air Express Division, 230 Park Avenue, New York 17. Or ask for it at any Airline or Express office.

Phone RAILWAY EXPRESS AGENCY, AIR EXPRESS DIVISION

Representing the AIRLINES of the United States

1849, No. 6025 on application of Mar. 28, 1848. Purchased by Herrick Aiken on Nov. 20. 1854, for $50, and the renewal by Walter Aiken, his son, for $2000 in 1863.

Matthew Townsend, English Patent of about 1858.

CIRCULAR KNITTING MACHINES

The late Owen Osborne of Philadelphia in his "Chronology of Knitting" states that the Brunel circular frames were introduced in the U. S. in 1830.

From the "Growth of Industrial Art," a Patent Office publication of 1888, with cuts, we have the following:

1. U. S. Patent of 1840, endless chain of horizontal needles.
2. U. S. Patent of 1844, four-feed machine horizontal needles, bevel or burr wheels.
3. U. S. Patent of 1852, vertical needles.
4. U. S. Patent of 1854, vertical needles with levers to lift stitches over.
5. U. S. Patent of 1855, single cone by Jonas B. and Walter Aiken, No. 13,561.

Machines 1 to 4 and French's single needle had fixed needles, while 5 and the Herrick Aiken horizontal needle machine had needles sliding in slots. The latter is believed to be the first of the type used in the knitting of circular hosiery and dated 1854. If patented, it would be interesting to have the date of application. Both of his sons, Jonas B. and Walter Aiken, took out patents for improvements on their father's machine, and the original was made for both hand and foot power.

It seems strange that A. French should patent a hand machine in 1855, if, as claimed, he had a power machine in 1845. *(R-149) Walter A. Simond.*

EDITOR'S NOTE: *The above information is helpful in clarifying the historical sequence of knitting developments. Particularly interesting is evidence of latch needle patents as early as 1803, for most of the generally circulating histories credit Townsend with the latch-needle idea. Brunel, whose frames Mr. Simond points out were imported into the U. S. in 1830, was credited in the* TEXTILE WORLD *April article with development of circular knitting in France in 1816, along with DeCroix in 1798.*

As to why Arasmus French patented a hand-operated machine in 1855 when a contemporary periodical credited him with having a power-driven machine in operation in 1845, one can only surmise that he was patenting the knitting mechanism unrelated to the drive and that substitution

SARAN for fabrics that must take punishment

Once in a great while a new material comes along and is warmly welcomed as an arrival of genuine importance. Textile men tell us that in Saran we have introduced a product that warrants just such a reception. This Dow plastic material excites interest and inspires close study because it can be woven into colorful fabrics capable of absorbing a lot of punishment. More than that, Saran opens the door to fresh and compelling merchandising ideas.

Here are some of the reasons why textile men tell us Saran is a natural for luggage, upholstery of theater, restaurant and transportation seats and for any place where fabrics are subjected to particularly severe usage:

It withstands scuffing and abrasion without complaint—it won't ravel or tatter—it isn't bothered by dirt, ink, grease, perspiration—its original beauty is restored by a quick wipe with a damp cloth.

You will want to get acquainted with a material that brings with it such important qualities and possibilities. We will be glad to put you on completely familiar terms with Saran.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

AVAILABLE THROUGH LICENSEES

Licensees located throughout the country extrude Saran for textile weavers and will gladly give you information regarding the varied uses and possibilities of this Dow plastic material. These licensees include:

- ★ Allied Plastics Co., Los Angeles, California
- ★ Firestone Tire & Rubber Company, Akron, Ohio
- ★ Hodgman Rubber Company, Framingham, Mass.
- ★ Irvington Varnish & Insulator Co., Irvington, N. J.
- ★ National Plastics Products Co., Odenton, Md.
- ★ Visking Corporation, Chicago, Illinois (Merchandised under the name Permalon)
- ★ Western Felt Works, Chicago, Illinois

DOW PLASTICS

OUT OUR WAY

I'M SURPRISED AT A GUY OF HIS MENTAL CALIBER DOIN' EXACTLY AS I WOULDA UNDER TH' CIRCUMSTANCES! HE GRABBED TH' ELECTRIC LIGHT, TH' TYPEWRITER AN' TH' TELEPHONE WHEN HE FELL AN' PULLED THEM ALL DOWN WITH HIM!
MAYBE TH' OFFICE NEEDS SPEEDI-DRI JUST LIKE TH' REST OF TH' PLANT! A BROKEN NECK ISN'T ANY DIFFERENT IN THERE THAN OUT HERE!
J.R.WILLIAMS
THE FALL GUY
COPR. 1945 BY NEA SERVICE, INC. T. M. REG. U. S. PAT. OFF.

SPEEDI-DRI saves time, man-hours, and money in keeping floors clean, dry, and skid-proof . . . one plant took fourteen men off floor-maintenance and put them on more valuable work, when they started using SPEEDI-DRI. It's a dry, white, granular material that sucks-up oil like a blotter takes up ink.

Leading insurance companies recommend it because it cuts down on falls, accidents, and "flash" fires caused by oily, greasy floors.

Thousands of industrial plants spread SPEEDI-DRI on oily or greasy floors. It immediately furnishes a non-slippery, light-colored surface. When the oil is absorbed, you sweep up the SPEEDI-DRI with a stiff broom, and the floor is dry and *safe*.

No gangs of trained workmen are needed, no complicated expensive machines, no dangerous or inflammable chemicals or caustics.

Write us today for further information, and a big, free sample. Just attach your business card to this advertisement. SPEEDI-DRI for oil and grease . . . SOL-SPEEDI-DRI for soluble oils, resins, syrups, solvents, acids, coolants, as well as regular oils and greases.

SUPPLIERS: East—Refiners Lubricating Co., New York 1, New York.
Midwest & South—Waverly Petroleum Products Co., Philadelphia 6, Pa.
West Coast—Waverly Petroleum Products Co., Russ Bldg., San Francisco 4, Calif.

SPEEDI-DRI
OIL AND GREASE ABSORBENT

of a pulley for the hand wheel would convert a hand-operated unit into a power-driven one. The 1945 centennial was of the first hosiery made upon an American-designed circular machine.

Insurance Rate Structure a Problem

Your plan [for "insuring" prosperity, March, page 4] is ingenious! Economically almost anything is possible; but a quick criticism of your plan is that the insurance risk would vary with the abilities of the various individuals insured, and this would be a factor not easily calculable in a rate structure. *(R-151) Daniel May.*

Experiment Proves No Twist Will Be Inserted

In regard to the Round Table question *R-118*, "Will This Device Insert More Twist?", the answer to the question is "No."

The explanation is quite simple; but the writer was so convinced that a very similar arrangement would do the trick and eliminate the combination of ring and traveler that he made equipment and tested it, and thereby found the answer some years ago.

In the sketch shown in your article, it is assumed that the bobbin is revolving at a speed to wind the yarn as fed through the rotating guide, which was true in the writer's experiment, and can just as well be at right angle to the line of thread. In any event, a thread guide is required to control the wind onto the bobbin. The reason no twist is put into the yarn as it is wound on the bobbin is because the rotating guide puts the same amount of twist in the yarn above the guide as it does below the guide, but the twists above and below are in opposite directions and neutralize each other.

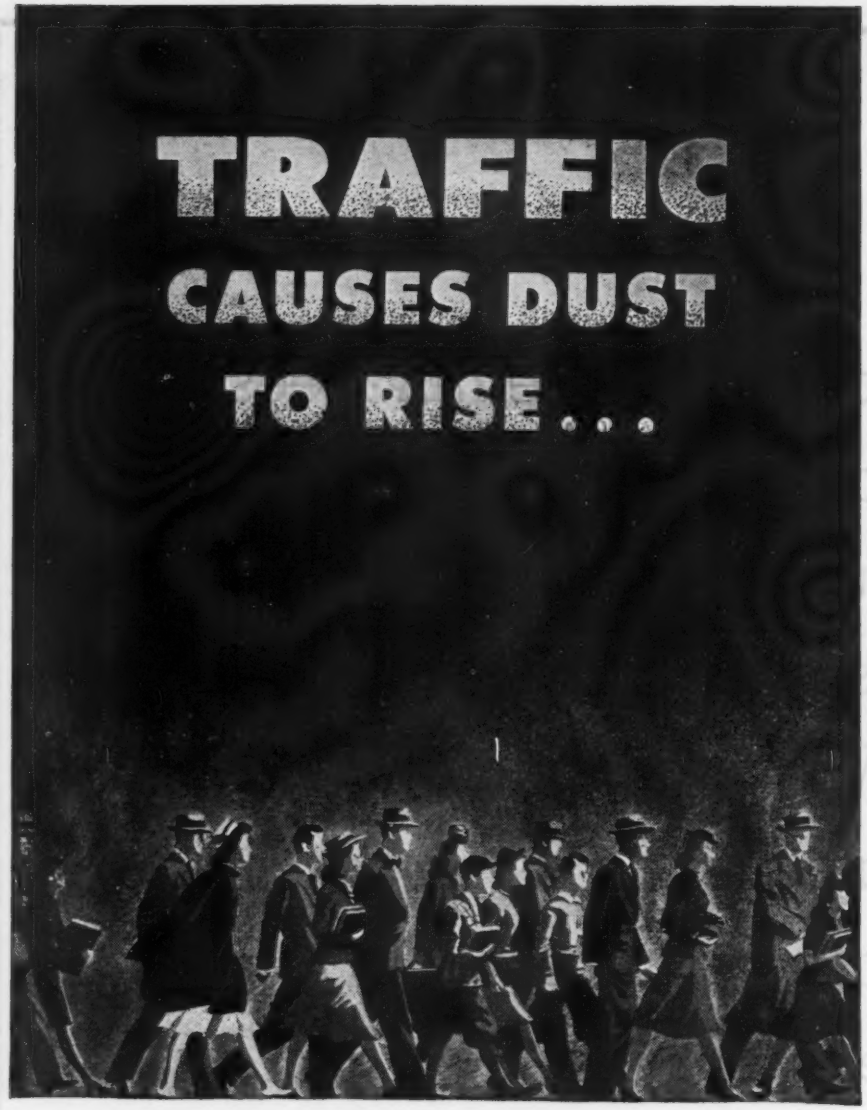
To express it another way, as the yarn reaches the rotating guide it has twist to the extent of the revolutions of the guide relative to the speed with which the yarn is traveling, and this twist is removed from the yarn between the rotating guide and the spool. *(R-143)*

False Twist Will Not Stay in Yarn

Your Round Table problem *R-118* (TEXTILE WORLD, March 1945) has been brought to my attention. Doubtless most mill men are aware that the ring spinning frame twists the yarn

In order to give our employees a much-needed vacation, our entire plant, including office and shop, will be closed from July 2 to July 7 inclusive. We urge our customers to anticipate, as far as is possible, their repair requirements prior to the week's closing.

JAMES HUNTER MACHINE CO.
NORTH ADAMS, MASSACHUSETTS, U.S.A.
FOUNDED 1847



WESTONE

FLOOR TREATMENT

CONTROLS DUST

Westone, the chemical floor treatment in liquid form simplifies floor maintenance problems. It continuously improves floor appearance, penetrates rapidly and evenly and *actually seems to become part of the floor material itself.* Westone controls dust in room atmosphere because the presence of dust in room atmosphere is due not so much to open windows as it is to floor traffic. The problem is to *keep the dust from rising.* Westone has, in addition to its other properties, a peculiar *affinity for dust* and when properly used to maintain a floor, the atmosphere will be comparatively free from it because foot traffic will not cause the dust to rise. Westone is very economical to use.

Send for FREE Booklet

WEST DISINFECTING Company

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by rotation of the spinning bobbin and that the traveler's lagging behind the bobbin allows the winding to take place. The amount of twist per unit length is governed by a number of factors, among them being the speed of the spindle and the weight of the traveler.

It seems that many persons are intrigued by the idea of increasing the twist without increasing the bobbin speed; and arrangements such as those in your sketch are the result.

It may be said categorically that such a device will not increase the twist. The thread or yarn gripped by device A at point *b* is given twists on either side of said point which are equal and opposite in sense. Therefore, as the yarn passes through the device, the twist on the exit side neutralizes that on the entrance side; and the result is no twist. Twist in such cases as are illustrated can only be inserted by turning one end of the yarn with respect to the other end. Devices such as that at A do not do this.

Devices of this kind are used in roving frames to compact or condense the fibers to prevent breaking or rupturing the product being drawn. An example of many such devices is the patent to Quaas 1,772,109. Such devices, known as false twisters, as pointed out above, have their place and utility; but they do not add twist. *(R-148) C. C. Pidgeon.*

Foreign Insurance Plans

I was very much interested in your editorial in the March issue of TEXTILE WORLD. While some foreign writers in the past have made reference to this sort of insurance plan, I believe you made the idea very clear and should carry on from there. *(R-150) Max C. Miller.*

Service Man Keeps Abreast With Textiles

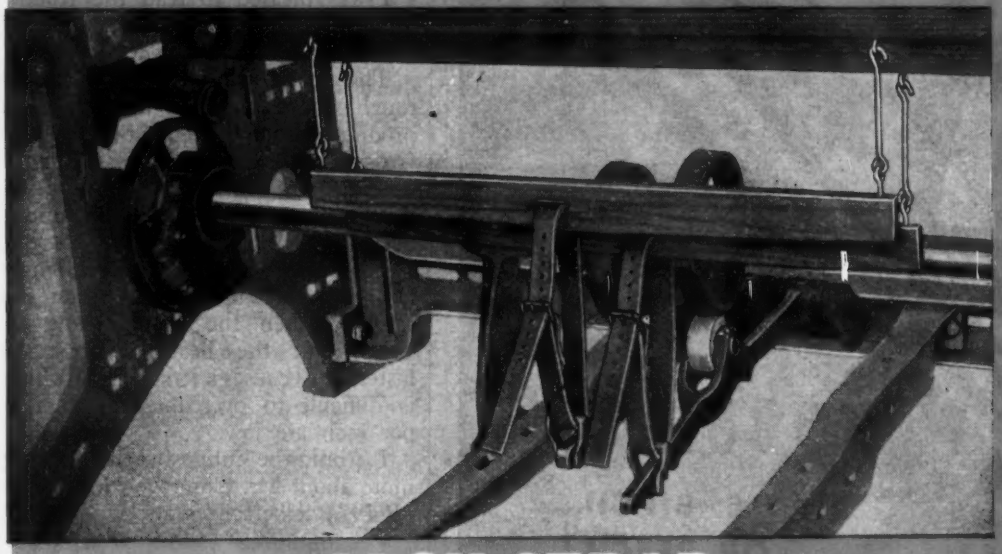
I have been getting TEXTILE WORLD ever since I have been in service, and I certainly want you to know that it has come a long way in the past year or so in complete coverage of all phases of textile manufacturing. I feel that the technical articles are just what are needed; and some of them have such good technical data as background that even with my limited facilities, I have saved several such articles for reference. . . .

Although I have been in the Navy two years now, I feel that I have kept

LOOM LEATHER POINTERS No. 1
JACK STRAPS

The first in a series discussing the performance requirements of loom leathers:

REPEATED PULLING like this



calls for a JACK STRAP like this

The Problem: to pull down the harness one to two times each second, exerting effort against the resistance of the other harness which it has to *lift*.

Service Requirements: high tensile strength to withstand the repeated strain of being pulled each time the harness cam forces the treadle down . . . maximum resistance to flexing wear at the points where the strap passes through the stirrup and through the jack stick . . . high tear strength to avoid trouble at the buckle.

The Solution: Graton & Knight's "Hairitan" leather. This special "Hairitan" tannage develops tensile strength averaging over 6500 lbs. Each lot is tested on the Olsen Machine to make certain it has this desired tensile strength. It has extreme toughness coupled with flexibility. Fibre structure is tight and strong to resist tearing.

"Hairitan" is acknowledged the equal of any "European-type" hair-on leather.

All products in Graton & Knight's ORANGE LINE of "Hairitan" loom leathers — pickers, check straps and other straps — are identified by orange color on the flesh side. This signifies *one quality control from hide to loom* — by the world's largest manufacturer of industrial leathers. Write for catalog on Graton & Knight textile leathers. Graton & Knight, 326 Franklin Street, Worcester 4, Massachusetts.

GRATON AND KNIGHT

ORANGE LINE LOOM LEATHERS

A complete line manufactured under one control from green hide to loom. Supplied by the leading distributors in the textile industry. Look under "Graton & Knight" in "Belting" section of Classified Telephone Directory or THOMAS' REGISTER. See complete catalog in TEXTILE WORLD YEARBOOK.

LOWELL

SHUTTLES

DOGWOOD OR PERSIMMON—FIBRE COVERED OR PLAIN

BOBBINS

MAPLE, BIRCH OR BEECH

WORKING FOR THE ARMED FORCES

Many a service man today is wearing fabrics made with Lowell Shuttles and Bobbins. Mills making government fabrics naturally turn to us, because of our half-century of experience.

All wood for Lowell Products is well seasoned and kiln dried. Every operation is performed in our own shop to control quality and speed up deliveries. Any desired finish can be furnished.

May we hear from you?

LOWELL SHUTTLE COMPANY

Established in 1896

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up fairly well by reading and studying. I am taking a course in Managerial Accounting with Penn State College, and subscribe to Factory Management and TEXTILE WORLD; and I hope that I won't have lost too much ground. (*R-152*) *J. C. Gray Sp (C) 2/c USNR.*

Author Wants Information On Take-up Invention

I was pleased to read the Round Table letter *R-137* in regard to a patented take-up and let-off for looms.

The road of invention has many rough stones to tread, but a worthy product cannot be kept down. If Mr. Cosgrove's invention lowers the production cost or increases the cloth quality, it may be just the attachment needed.

Nearly all let-offs have a common fault: the take-up is faster than the let-off. When the warp is low on the beam, the beam must travel faster. This causes a jerky action which is difficult to overcome when picks per inch are low.

I would be interested in learning more about Mr. Cosgrove's invention. (*R-147*) *Albert Frantz.*

Danger Involved In Emptying Drums With Air

We have read the article under Kinks and Short-Cuts by *K-308*, entitled "A Safe Arrangement for Emptying Drums with Compressed Air" (TEXTILE WORLD, April, page 162). The relief valve and pressure gage are added safety measures; but when handling flammable liquids, they do not begin to overcome all the dangerous features created by this method of emptying drums.

In the first place, a pressure vessel would be made out of a container not designed for this purpose; and there is no way of knowing how much pressure the drums will stand, even though they have been pretested and are new. Shipment and handling can strain a drum almost to bursting point without showing visible signs of weakness.

As the liquid is forced out and reaches the level of the delivery pipe end, a rapid exodus of air could cause ignition by the generation of a static spark unless every part of the unit were properly grounded. Usually little attention is paid to this thought.

If the drums started leaking, there is no quick way shown for releasing

SYLVANIA NEWS

TEXTILE EDITION

JUNE *Published by* SYLVANIA ELECTRIC PRODUCTS INC., Salem, Mass. 1945

SYLVANIA FLUORESCENT LAMPS ILLUMINATE MODERN TEXTILE PLANT

Another great textile plant—Riverdale Mills, Enoree, S. C. – has solved its lighting problems by the installation of fluorescent lamps and fixtures made by Sylvania Electric.

It is well established that fluorescent lighting—especially in textile mills—means greater visual and physical comfort with a consequent increase in production and improved quality.

This modernization of the Riverdale Mills lighting system was handled by a Sylvania jobber – Montgomery & Crawford of Spartanburg, S. C.—and the photograph below is ample evidence of the efficacy of this installation.

Photograph of the large weave room, Riverdale Mills, Enoree, S. C., entirely illuminated with Sylvania Electric Fluorescent Equipment.

20-WATT AND 40-WATT LAMPS HAVE HIGHER LUMEN OUTPUT

Increased Operating Efficiency In Widely-Used Fluorescents

LUMEN OUTPUT OF SYLVANIA FLUORESCENT LAMPS

LAMP	COLOR	Total Lumen Output (after burning for 100 hrs.)		Approx. % of initial lumens/watt at 70% of rated life		
		Previous	New	Rated Avg. Life	Cycling	%LPW
20W-T12	White	860	880	2500 4000 6000	3 Hr. 6 Hr. 12 Hr.	84 76 70
40W-T12	White	2100	2160	2500 4000 6000	3 Hr. 6 Hr. 12 Hr.	84 76 70

Latest of Sylvania's fluorescent lamp life ratings and efficiency data—for two of the most popular sizes—are contained in the above chart.

This tabulation indicates a measure of the new performance that these widely-used T-12 lamps achieve.

In addition, these are two of the sizes that are fitted with one of Sylvania's most recent developments – the position indicator. Molded into the new plastic base, the indicators are placed on the shoulder of the cap at right angles to the pins. When the lamp is correctly inserted into the fixture one of these indicators points down. A touch of the finger is the only check required for precise positioning.

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2. Three hundred million dollars worth of products are manufactured from cotton piece goods in a market area reached at lower cost from Memphis than from present cotton mill centers.

3. Analysis shows substantial freight and delivery cost savings for a mill in Memphis as compared with present mill centers.

4. Memphis has a large supply of easily trained, efficient labor. Memphis has well diversified industries with trained skilled labor. There is a surplus of female labor.

5. Memphis has a large textile finishing plant.

6. Memphis has excellent, competent transportation facilities for distribution by rail, truck, water and air.

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CHAIRMAN
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the air pressure within the drum or shutting off the flow of liquid.

Cases are on record in which the air supply failed, and without a check valve a vapor pressure from the liquid in the drum was sufficient to fill the air system with vapors; and in the case of flammable liquids, serious explosions have occurred involving the entire air system.

The compressor itself would be a possible source of ignition. It is possible, though uncommon, for glowing particles of carbon from the compressor to carry through the air delivery line unless properly equipped with an air filter, which is not customary on most compressed air systems.

If air is to be used safely for unloading drums, it would be better to obtain an air-operated drum pump which gives more positive action for delivering the contents, which can be quickly started or stopped, and which eliminates all the hazards that go with direct unloading of drums by compressed air. *(R-146) R. G. Shepherd.*

S Twist Neutralizes Device's Z Twist

This letter is in reply to your article *R-118* in the March issue of TEXTILE WORLD.

Your article starts with the following paragraph, "In the illustration, A is supposed to add twist in the yarn as it revolves. Will it?"

In short, the answer is, "It will not."

The device shown in A is exactly the same in principle as the twister tube in a woolen spinning frame, and it is well known that the twister tube neither adds nor takes out twist.

If the attachment A and the spindle are rotating in opposite directions, the yarn between the pigtail guide and A will receive, let us say, Z twist. This yarn with Z twist will be delivered to the area between A and the spindle. The spindle, going in the opposite direction, will thereupon proceed to take this twist out. If device A and the spindle are rotating at approximately equal speeds, substantially no-twist yarn would be delivered.

If A and the spindle are both going in the same direction and at the same speed, A would put in the twist and the spindle would just keep pace with it and add no further twist. If the spindle is driven faster than A, it will add a few turns more twist, but in no case would the resultant twist be any greater than the spindle could put in without the aid of the device. *(R-145)*

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Questions and Answers

Predetermining Fabric Strength

Technical Editor:

Frequently we have to make a cloth that has to meet a minimum breaking strength in the warp and in the filling; but it must still be made with a low count, as a matter of economy. I would like to know if there are any formulas that will predetermine the breaking strength (grab test) in the warp and in the filling of a cloth with certain count, yarn number, and weave, based on the mill's yarn breaking strength by skein test. (9040)

We know of no formula that will predetermine accurately the breaking strength of the warp and of the filling in a cloth made with a given yarn. There are so many variables that any attempt to work out such a formula will produce results that are varying and will not equal the results obtained from actual tests.

A rule-of-thumb method used by some designers for predicting the breaking strength of fabrics is as follows:

The warp in the fabric will break (grab test) at from about the same to about 20% of the skein break.

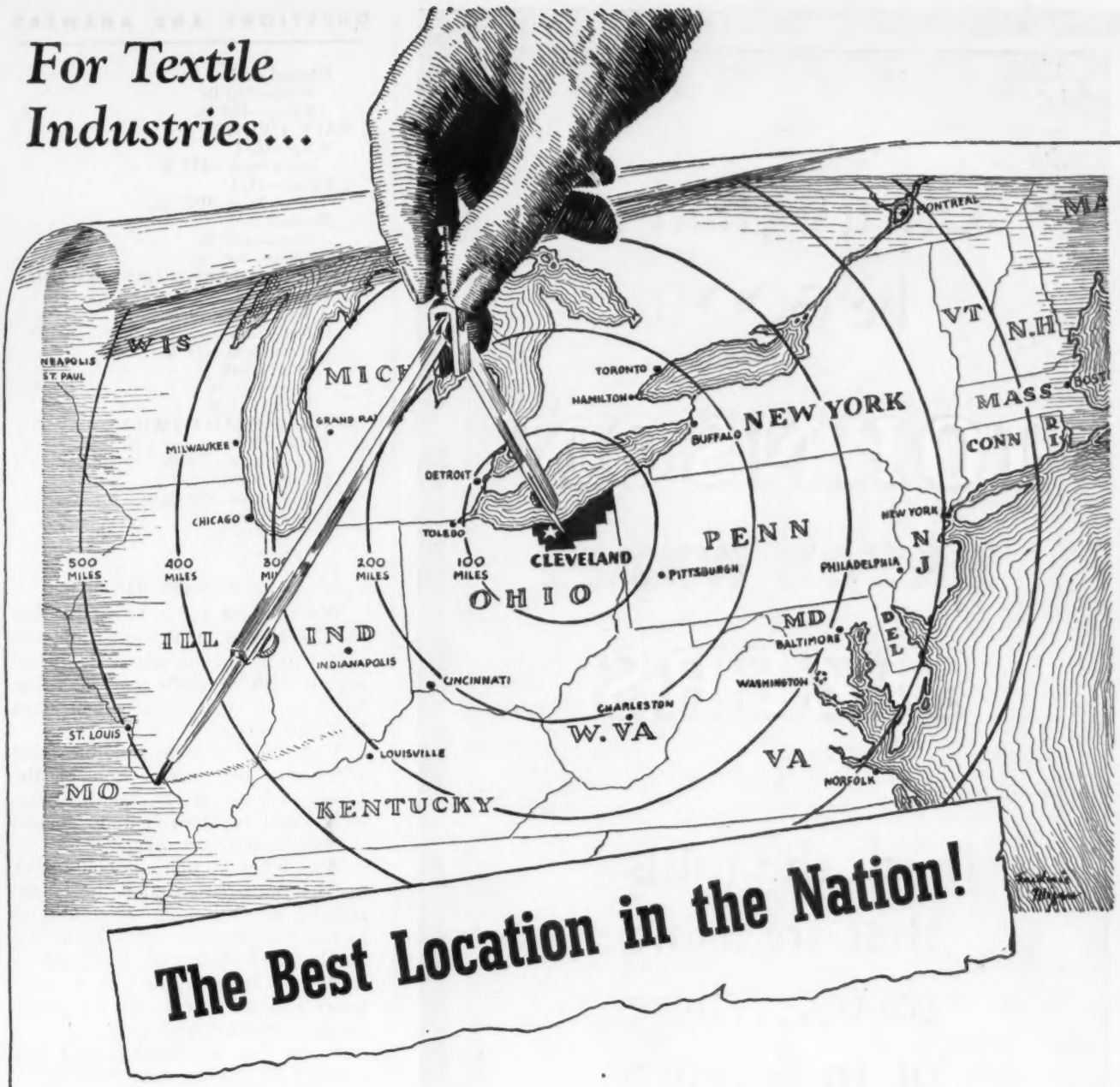
The filling in the fabric will break (grab test) at about 50% of the skein break.

Listed below are skein breaking strengths of yarns and the resulting fabric strength tests (grab tests) for a number of military fabrics. From these results, you may obtain sufficient information to approximate the resulting breaking strengths in the fabrics that you intend to manufacture.

ARMY POPLIN, combed, 36-in.
- Warp—40/2
  - Skein break—55 lb. single, 120 lb. ply.
- Filling—17/1
  - Skein break—135 lb.
- Finished cloth
  - Warp—115 lb.
  - Filling—60 lb.

ARMY TWILL, combed, 42-in.
- Warp—36/2
  - Skein break—70 lb. single, 165 lb. ply.
- Filling—24/2
  - Skein break—100 lb. single, 250 lb. ply.

For Textile Industries...



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PATERSON NEW JERSEY

Finished cloth
Warp—180 lb.
Filling—180 lb.

NAVY TWILL
Warp—16/1
Skein break—135 lb.
Filling—13/1
Skein break—190 lb.
Finished cloth
Warp—170 lb.
Filling—100 lb.

ARMY PLAIN LAWN HANDKERCHIEF
Warp—60/1
Skein break—30 lb.
Filling—72/1
Skein break—25 lb.
Finished cloth
Warp—33 lb.
Filling—25 lb.

NAVY RAINCOAT TWILL
Warp—30/1
Skein break—70 lb.
Filling—30/1
Skein break—70 lb.
Finished cloth
Warp—85 lb.
Filling—35 lb.

Another contributor states:

We know of no material that has been published on this question, nor of any formula from which the breaking strength of cloth may be calculated, based upon single-end or skein tests of the yarn.

There are so many variables that enter into the construction of the fabric such as staple length, twist, weave, and tensions, that no general formula would be workable.

We do believe that you could work out a formula based upon the fabrics running in your mill. If conditions in your mill are fairly constant, we see no reason why a formula could not be worked out to give you a fairly accurate pre-determined break of the fabric based upon single-end tests.

To do this, we would suggest that you first classify your fabrics by weave. Then, sub-classify these by the number of other variables that affect the fabric, such as yarn number, twist, staple length. For instance, if you were making two identical cloths, and one was being made from 1-in. cotton, and the other from 1¼ in., you would make two classifications.

For each of these fabric classes, make out a master breaking-strength test form. Have all cloth breaks posted from the laboratory report to this form. Also post your single-end breaks.

With a quantity of such breaks, you could easily determine the relationship of single-end to cloth break for this particular fabric.

In addition, by experimenting with one factor—such as warp yarn number—you could easily determine the lowest count possible to make the minimum cloth break for your particular mill.

(*Continued on page 186*)

ACCESSORIES

. . . for the new Fall clothes

Water—in the fashion picture? Yes, more than ever in post-war years, as new fibres present new processing problems requiring higher quality water than in the past. For the impurities water contains could disturb chemical reactions, spoil the finish of fabrics, and cause spotty, off-color dye lots. Permutit* removes these impurities.

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(Continued from page 184)

Moire Effect in Monofilament Fabric

Technical Editor:

We have read with interest the article on weaving plastic monofilaments, page 145 of TEXTILE WORLD, February 1945.

In our development laboratory we have been weaving fine monofil fabrics and enclosed is a sample of one particular lot showing a defect which we have not as yet overcome. You will notice that the warp ends tend to group themselves in pairs in a very irregular manner. This produces a moire effect in the finished fabric and is not permissible for the particular fabric application.

Mr. Albert Frantz in the above mentioned article shows Fig. 4B which is a similar defect but we believe it is not exactly the same.

Would you be able to obtain Mr. Frantz's comments for us on this particular sample as we are very interested in this work? (9043)

It will be very difficult to remove the "moire effect" on this particular weave. The difference between the defect shown in figure 4B TEXTILE WORLD, February 1945 issue, and the sample you submitted, is that the figure 4B is due to the harness heddles sticking, whereas the sample indicates general conditions—the reed is probably the source of trouble.

Careful analysis of the sample indicates a slightly off-balance weave. The reed count, which is difficult to break up into an exact reed count due to contraction from various reasons, indicates an 88/2. (And that is a very high count.) The pick count shows but 160 picks per inch compared to 176 ends. After contraction, the warp count has increased to 184 ends per inch. A suggestion would be: if the indicated reed count is correct and an 88 dent reed, 2 ends per dent is used, place on an 86/2 reed and increase the pick count another 8 picks per inch. This will make a better balanced weave and give nearly an exact square between lacings. Should you desire to retain the warp count, then increase the pick count to approximately 184 picks per inch to equalize the warp count. However, this alteration in construction will help, but is a minor item in the generality of the defect.

At first glance, the grouping of warp ends into pairs, every other pair, indicated that perhaps a 4-shaft harness was lifting intermittently, and two shafts were unequal such as is caused by earlier lifting or uneven dobby hooks. But after a more careful break-up of the next few inches, the

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Balanced five-way valve for reversing the dye liquor.

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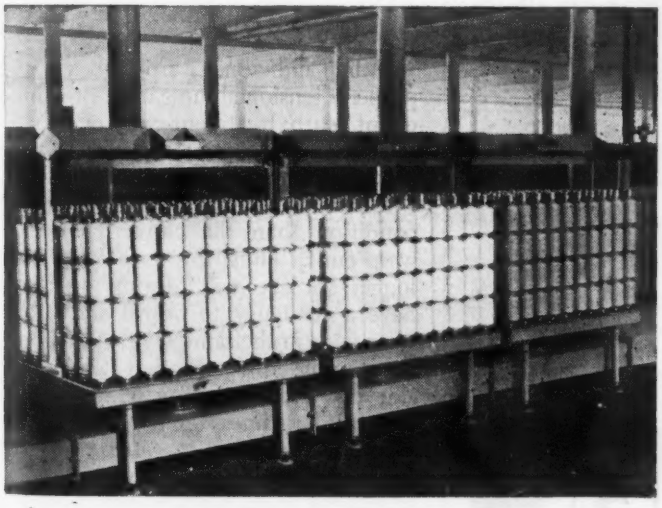
Above— Model KRAG package dyeing installation with closed pressure extractor in complete cycle on the same material carrier.

Opposite— Model UKSAG package dyeing stallation with closed pressure extractor and open dryers in a complete cycle on the same material carrier.

Below— *"Stienen"* self-sealing package dryer.



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Diameter Inches	Number of cubic feet per month at 75 lb. pressure	Total cost of waste per month 11¢ per 1000 cubic feet	Pounds wasted per month at 160 lb. pressure	Total cost of waste per month 65¢ per 1000 lb.	Gallons wasted per month at 60 lb. pressure	Total cost of waste per month 16¢ per 1000 gallons
1/2"	13,468,000	$1,481.44	1,219,280	$792.53	1,524,100	$243.86
3/8"	7,558,500	831.44	684,290	444.79	855,360	136.86
1/4"	3,366,990	370.37	304,820	198.13	381,020	60.96
1/8"	824,570	90.70	74,650	48.52	93,310	14.93
1/16"	213,000	23.43	19,280	12.53	24,110	3.86
1/32"	52,910	5.82	4,790	3.11	5,990	.96

What does it cost you each month *for air, steam, water, you never use?*

Fig. 1640 "King Clip" Gate

Maybe you've never checked the actual cost of valve leakage. If you haven't, you'll doubtless be startled at these figures.

A single valve leak the size of a pinhead can waste enough air in a month to approximate the cost of a new valve. Steam leaks . . . water leaks . . . also take a heavy toll if neglected . . . not to mention the wastage of such a critical item as fuel.

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Fig. 16-P Bronze Globe

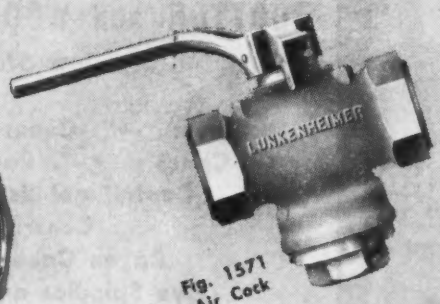

Fig. 1571 Air Cock

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groupings of pairs—two ends in a semi-rolled condition, then two-ends correct, etc.,—the exact repeat of grouping broke in an irregular grouping of pairs, and the harness source such defects was therefore eliminated.

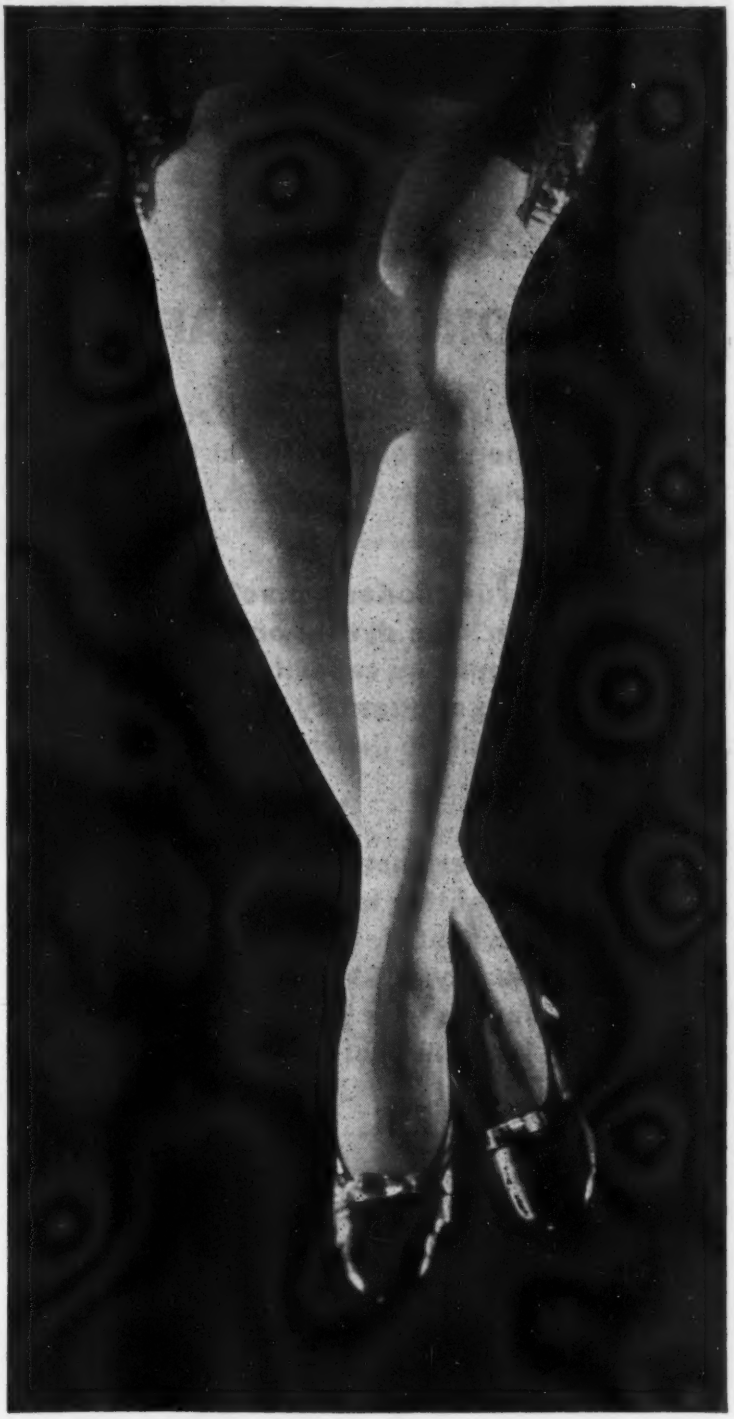
Notice that the pairs also showed uneven stretch. The grouped ends take place in a haphazard manner warpwise and under magnification indicate that individual warp-end tension was not uniform. This particular defect runs off-and-on on individual warp ends, and gives information that end-tension must be better controlled. Not knowing what type warp-end package you are using, it is somewhat difficult to give a correction to the warping. But from former experience, the writer believes the warp yarn is obtained on large spools and is warped from the silk-type creel. In fact, the nature of this defect also indicates that spools are used. In warping, the spools lack sufficient drag to tension the yarn properly. This produces loose ends which, on weaving, will leave the condition shown in the sample.

A suggestion in regards to warping: if running from spools as swatch indicates, bobbins must be tensioned to prevent free running. If necessary, slow down the warping frame. But satisfactory tension can be obtained when using felt and washers in the right combination. You must obtain more drag. When spools run off irregularly, the spools having less yarn will turn less freely than full spools. If warping is done from a creel to horizontal warper, be sure to use an electric static eliminator. When placed in front of the band roller, it keeps all warp ends flat and prevents ballooning and band spreading. Even on cone creels, the static eliminator is vital for successful warping.

When individual warp ends are improperly tensioned, no gadget or subsequent warp treatment will overcome the damage. It can be slightly corrected, but not entirely. Notice that the grouped pairs are in less stretched condition than the correctly aligned warp ends. Thus, the warp ends with longer yardage will, during weaving, have a tendency to crowd the other warp ends in the same dent. At times, the sample discloses that the right-side end crowds to the left-side end; and at other times, the left end crowds the right.

The defect can be lessened with additional warp tension during weaving, but that will not correct it entirely. Add more tension, and the more taut warp ends will stretch more, taking out slack in the under-tensioned ends. Quite naturally, over-tensioning the

WHEN *Nylon* COMES BACK HOME



A famous hosiery mill in Franklin, N. H., can start making sheer, 51-gauge, seamless hosiery the day after war releases nylon from its present job — parachutes, mosquito nettings, and other vital items.

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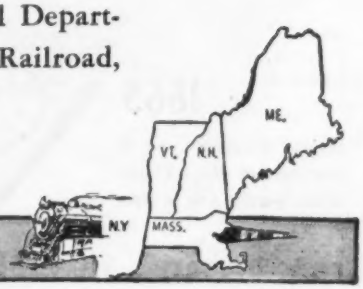

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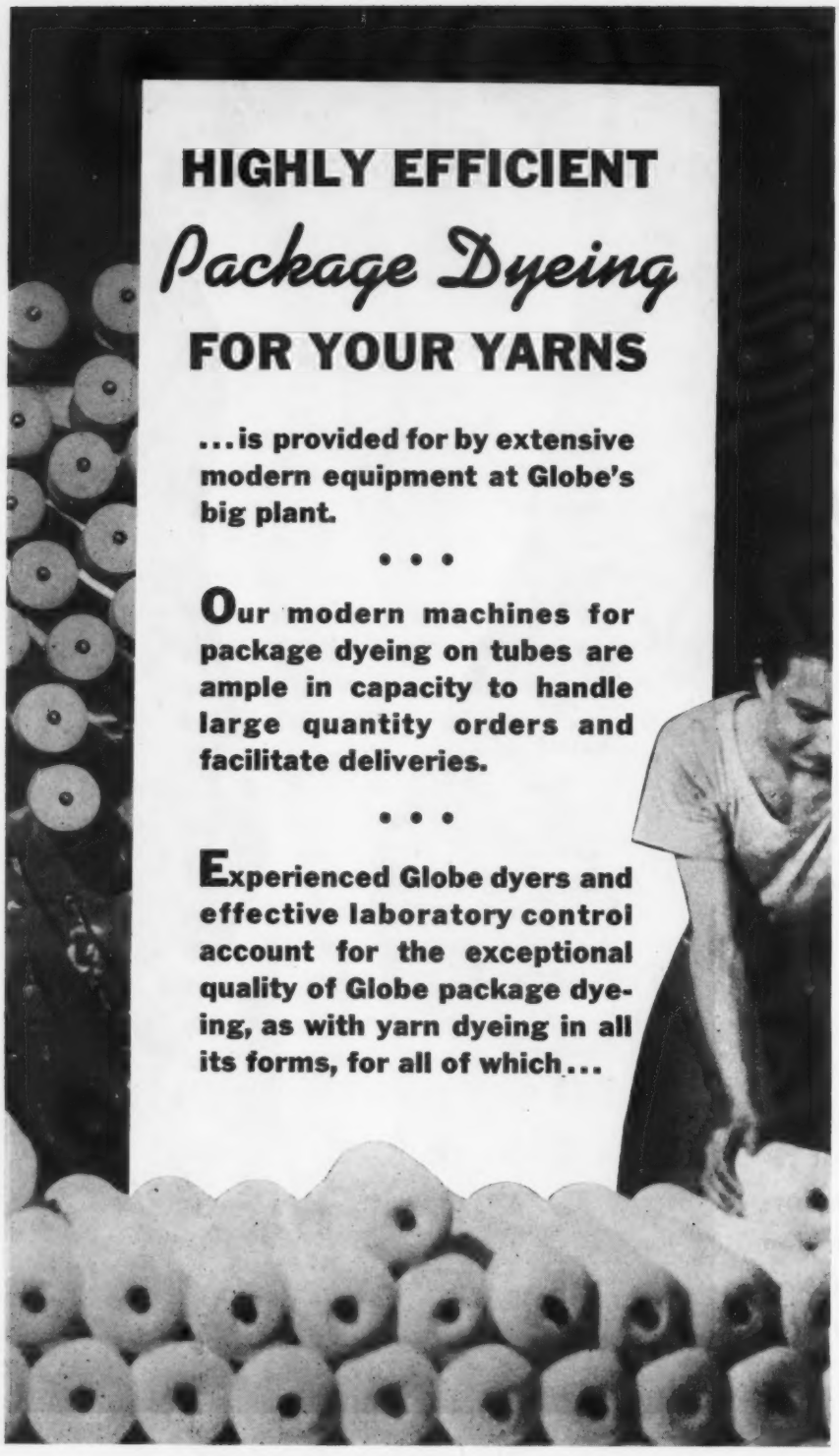
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warp will cause loom bang-offs which can be overcome by additional pick and more harness pull-down tension.

This brings us to the last and least desired of all corrective measures to eliminate the defect shown in the sample. With certain reeds and, of course, satisfactory warp tension, the defect should be prevented. This requires a reed for single entry—and that would be an undesirable method from a weaving viewpoint. To give a smooth, clear weave, free from double-end grouping as shown in the sample, the 86/2 reed entry would have to be an 172/1 reed draw.

That 172-dent reed is perhaps out of the question. But if you wish to eliminate the defect entirely, it is the only positive method. As it is, the 88/2 (176-end count) reed draw, shows dent wires spacing heavy enough to make the 172/1 dent reed promising. One loom could be tried.

There is still one other method that could be used, but not so satisfactorily. During weaving, the harness shafts could be jumped slightly sidewise to shift the warp ends to the dent wires at the beat-up of the filling pick so as to bind them in place. Thus the entry, say, is 1-up, 2-down on one dent, and 3-up and 4-down on the next dent. This will bring shafts 1 and 3 up on straight-harness entry, and 2 and 4 shafts down. By placing a jumper on the side of the harness during the shedding, harness shaft 1 and 3 are jumped (or jerked) to the right, and shafts 2 and 4 are jumped to the left. This forces the warp ends out of line and crowds them against the reed wires, the one end to the right side and the other end to the left side. This action must be a sudden jerk just at a point slightly before the harness shafts are equal, and must end after crossing.

Cleaning Bag Fabric

Technical Editor:

We are enclosing a sample of burlap which we have made from second-hand bags slit open and stitched together in 100 yd. lengths. This comes in two widths, 25/26 in. and 28/29 in. This material is quite soiled and we are anxious to have it treated in some form that would either clean it or give it a coated surface so that it could be used and would make a better appearance.

We recently procured some black webbing which, it was stated, had been mildewproofed. We thought that some such finish as this, or some less expensive finish, would answer the purpose. (9048)

In order to clean up the bag, the following procedure can be used:

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Batch on a roll and scour out on a jig. This will remedy the soiled condition, after which the batch can be dried over cans. Some loss in width will occur in the scouring operation; and since there are no selvages, it will be difficult to frame dry the goods to their original widths. You will probably have to accept whatever width the goods come out.

Mildewproofing chemicals are none too available because of their extensive use on government fabrics. However, copper naphenate and certain other copper salts are effective mildewproofing materials and possess considerable color in themselves. Emulsions and suspensions might be available and, by a simple padding and drying operation, could be applied to the burlap. If the degree of soiling is not too great, this would suffice to cover. Pigments such as carbon black could be added to these emulsions to further deepen the shade, which appears to be relatively unimportant.

Throwing Hosiery Yarns

Technical Editor:

I have been endeavoring to locate some information regarding yarn construction as used by American manufacturers in knitting full-fashioned acetate hosiery. I am particularly interested in yarn count or denier, the twist, and the ply, if such is used. (9041)

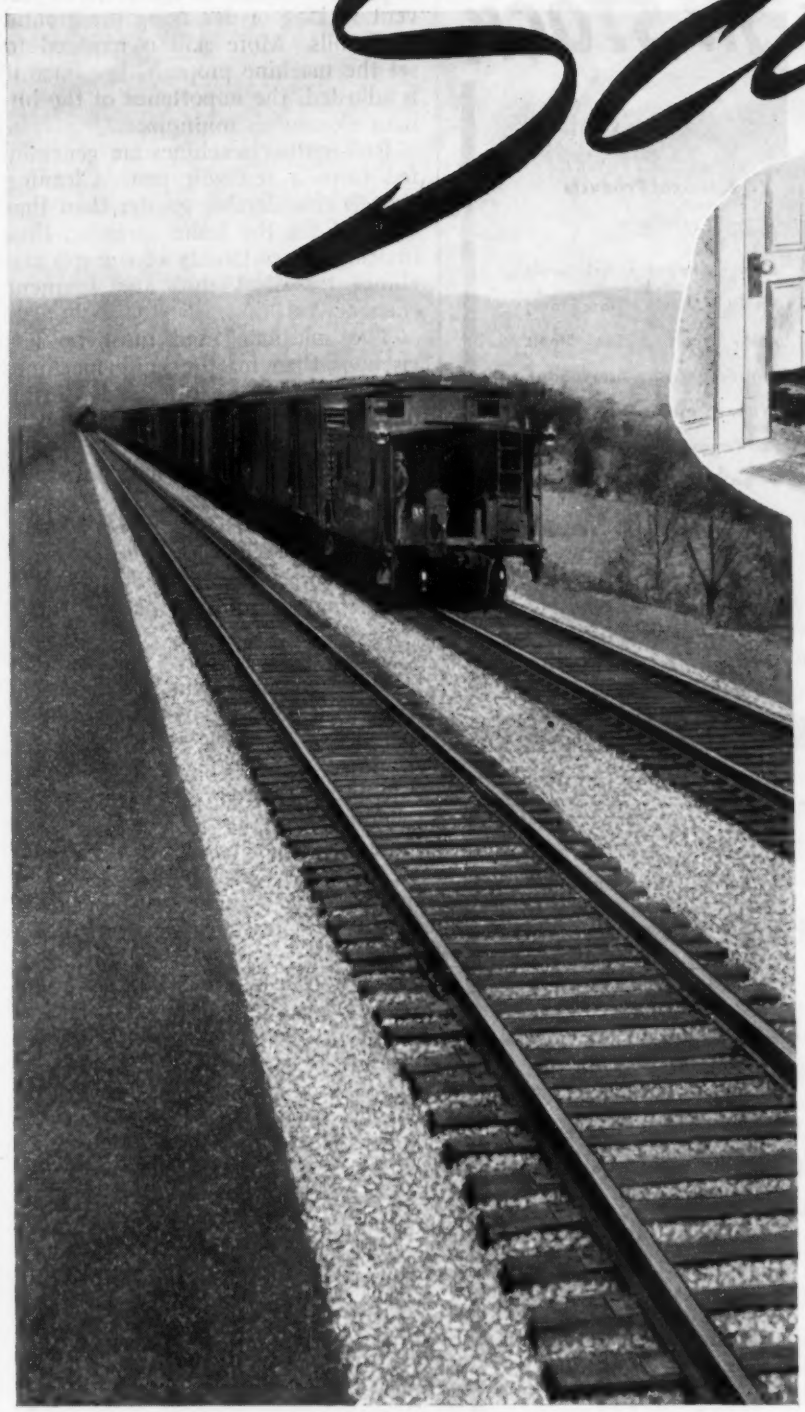
The following throwing procedure can be used on bright acetate, 75 den., 20 fil. This yarn is Avconit treated, using No. 4 Avconit, and employing a 60-40 ratio; that is, 60% Stoddard solvent and 40% Avconit No. 4. This will hold a twist from 23 to 24 turns. (For good knitting, do not let twist go over 24 turns Z.) After wax treatment, wind to 7½- to 8-oz. winding-spinning bobbins.

In the reeling of acetate cones to the skins, it is practical to reel the yardage that the winding-spinning bobbin will hold, so as to run package-to-package in the spinning operation. A good spindle speed is from 9,500 to 10,000 r.p.m., using a light flyer for tension.

Condition the yarn for twist setting in the usual manner and let it stand at least two hours before coning. Cone to pineapple cones. After coning, recondition the cones for any twist distortion that occurs during the coning operation.

Some acetate yarn is plyed—principally 30 den. This is necessary when using the extremely strong saponified acetate, since otherwise it will not have sufficient elongation.

Scat!



And then, there's the old story about the farmer: "When I say scat! By golly, I mean scat!" He got immediate action because he had prepared for it—he had cut two holes in the cabin door. So it is with the Norfolk and Western Railway. When the textile industry wants raw materials in a hurry, or fast, safe dispatch of finished products—this railway is prepared for it. When the word is given, raw materials and textiles move, now, and promptly to destination.

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FACTORING FOUNDED ON SERVICE

Coating Equipment

(*Continued from page 119*)

Repair and maintenance are more difficult, and parts are more expensive. It requires more care in operation to prevent nicking or damaging the ground steel rolls. More skill is required to set the machine properly, but once it is adjusted, the importance of the human element is minimized.

Roll-coating machines are generally fed from a reservoir pan. Cleaning time is considerably greater than that required for the knife spreader, thus limiting the suitability of the roll machines for short runs and frequent change-overs.

The solutions used must be less viscuous than for the knife machine. This more fluid mixture tends to sink into the fabric, causing the film to take on the appearance of the weave rather than developing a smooth patent-leathery look.

The roller coat is highly continuous even in very light films, and produces a high hydrostatic resistance relative to the amount of solution applied.

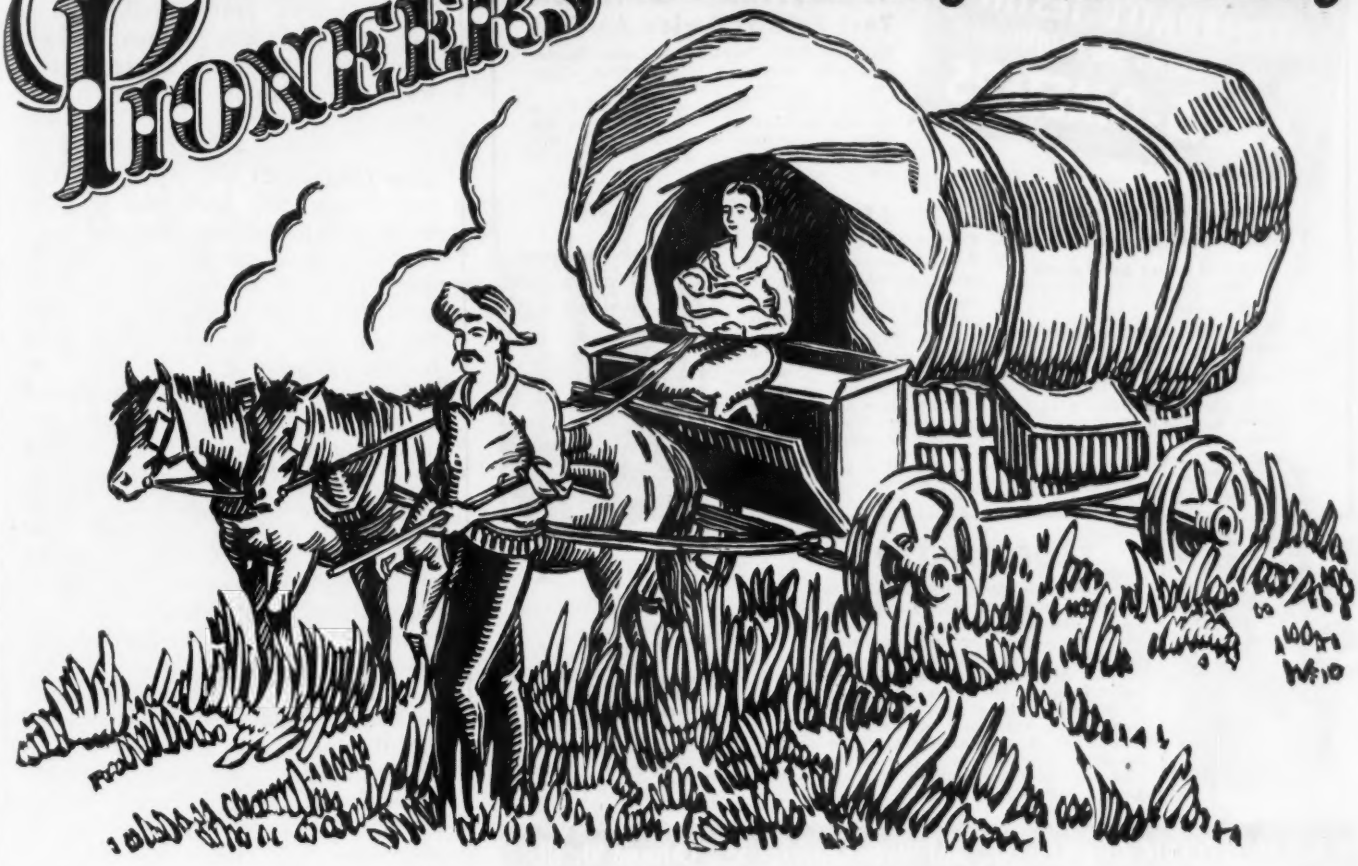
COATING CALENDER. A modern high-precision coating calender is shown in Fig. 3. In considering the features of calender coating, it is impossible to disregard the very necessary auxiliary equipment. In the case of knife and roller coating, solutions may be purchased ready for use; but in the case of the calender, the plastic must be kneaded and brought to proper temperature before the actual coating can be done.

The initial investment for machines used in calender coating is high, as also are the labor costs; but offsetting this to a degree is the fact that no solvent is used. A smooth, heavy film, which is applied with ease, makes this method ideal for a coating thickness of two or more thousandths of an inch.

The coating mixture, known as the mass, is prepared by working the plastic, plasticizer, and modifiers together on a heated two-roll rubber mill. When sufficiently milled, the mass is stripped from the rolls in sheets and kept until needed by the calender. Then the sheets are again put in the heated mill and brought to a proper temperature which varies with the type of plastic used and the surface to which it is applied, whereupon the mass is fed to the top rolls of the calender.

In the case of a three-roll calender, the top and middle rolls meter the mass and squeeze it to a uniform and predetermined thickness over the middle roll. The film is then brought in contact with the cloth passing between the middle and bottom rolls, and it adheres to the material being coated in

PIONEERS Yesterday and Today



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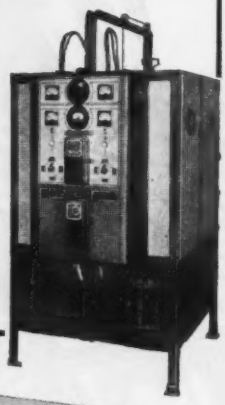
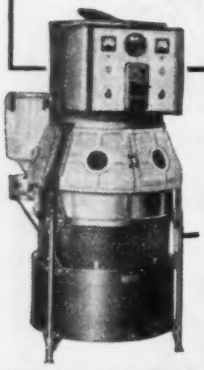


The Single Arc Model is a popular machine where high speed is not required.



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preference to the heated middle roll.

The coating calender is usually run slower than the knife or roll machine; but since the entire job may be done in one pass, the total coating time is less for everything but a very thin film.

LOW TOLERANCE. For practical purposes, depending upon the cohesive strength of the plastic, the lower limit to which most masses may be calendered is about one-thousandth of an inch. If a much thinner coating than this is needed, a knife or roll machine becomes imperative.

Because of the high viscosity of the mass, films applied by the calender have a lower degree of adhesion than those deposited by the knife or roll. For some types of plastics, it becomes advisable to put on a priming coat by means of the knife spreader before calendering to assure that the mass does not strip off the face and adhere to the back of the material being coated.

As the calender was designed and evolved to handle rubber, it follows that it is most satisfactory when plastics with the approximate physical properties of rubber are used. Many of these plastics—such as polymers of vinyl chloride, vinylidene chloride, ethylene, and some synthetic rubbers—are so slightly soluble that they may be properly coated only by this method.

Cellulose plastics are not particularly suited for the calender, since they are frequently sensitive to the necessary heat of the calender and turn yellow. Plastics such as urea-formaldehyde, melamine, phenolics, alkyds, and chlorinated rubber may not be applied by calender. However, cellulose acetate and ethyl cellulose are sometimes used. Most cellulose derivatives are readily soluble in low-cost solvents to form high-solid-content dopes, and there seems little reason for not using the simpler knife-spreading technic.

FIRE HAZARD. Since there is an absence of solvent in the mass, the danger of fire or explosion is greatly diminished. Some static is developed, however, and if the mass contains much solvent-type plasticizer or is otherwise inflammable to any considerable degree, care must be taken to remove the charge before dangerously hot sparks can develop.

Thus, it may be seen that calender coating is of most value when it is necessary to apply heavy films to a fabric at a high rate of production. Its high initial cost and the considerable degree of skill needed to operate it make it hardly the machine for small companies, or for those first starting a

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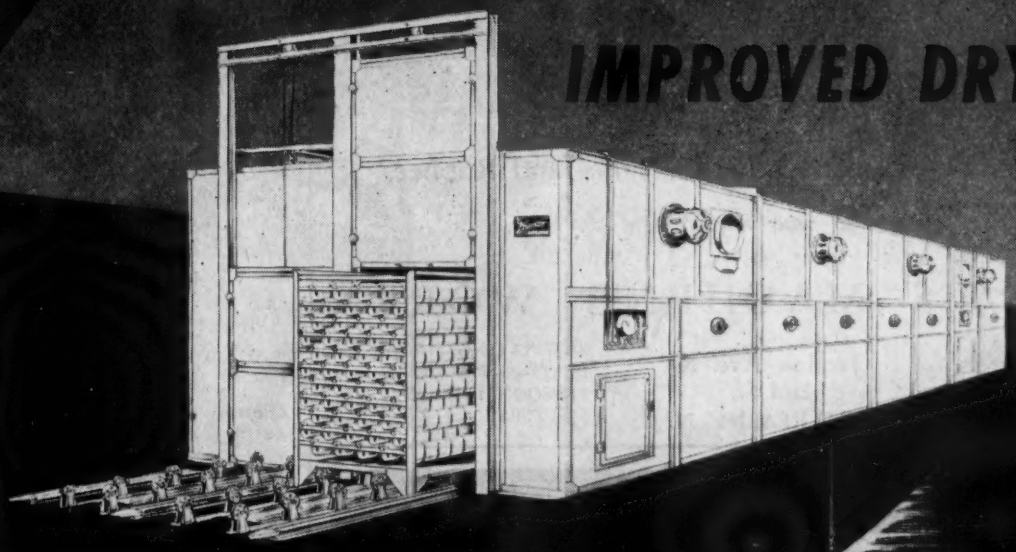
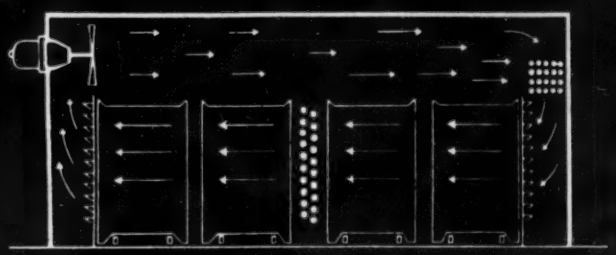
PROCTOR DRYER FOR RAYON-IN-CAKES means IMPROVED DRYING





IN MANUFACTURING PLANTS

For controlling the quality of rayon in the manufacturing stage, this Proctor Dryer has long been standard equipment. This machine, handling rayon in cakes, may be arranged either to take the rayon through the successive steps of drying, cooling, regain and conditioning—or through drying only.

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Within the past year and a half it has been found that by the use of this dryer, throwing mills handling rayon, can eliminate many of the difficulties encountered in former methods of processing. By handling rayon in the form of cakes and employing this dryer, throwsters are able to eliminate considerable damage to yarn, which accounted for a high rate of spoilage, with less recent processing methods. Then too, drying can be accurately controlled. Combine controlled drying with the elimination of damage to filaments and it is easy to see how ultimate quality is improved.

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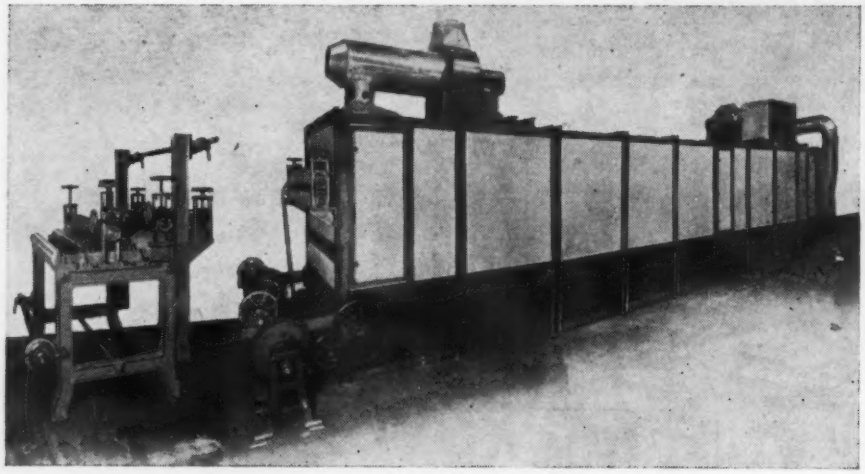

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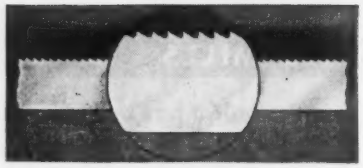

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coating department. However, the excellence of its films, both in appearance and performance, makes it unsurpassed for producing highly waterproof or resistant coatings. It is also to be noted that many of the most valuable plastics can be applied to fabrics only by means of the calender.

SELECTING A MACHINE. As has been shown, roll coating combines some of the features of the calender with others of the knife. If it is operated within its definite limitations, it can be made to produce results not possible in any other way. Of most value to the fabric-coating field is its ability to lay down a very light coat of excellent nonporosity; while in the case of paper coating, the uniformity of its films and the ease with which they may be varied and controlled in thickness are the most outstanding characteristics of the roll machine.

But if one machine only must be chosen, there is little doubt that the selection would be the knife spreader. In almost every case when roll or calender coaters are used, knife spreaders are also in evidence. Many jobs may be done on them that are not suited to roll coaters or calenders, and few jobs do not somewhere make use of the simple and efficient knife coater.

The coating field is becoming an increasingly broad one. Specialization within this field is becoming more and more the rule, and machinery is being selected which is most suited to that specialization. Only when the coating machine and the plastic used meet the physical requirements of the coated fabric will the great properties of the new elastomeric plastics, including synthetic rubber and other elastic compounds, be given full rein to aid in making a reality of that better world of tomorrow.

Enzymes in Printing

(*Continued from page* 145)

strip of the suspected fabric is dipped in iodine, some indication of the distribution of the starchy matter will be given. When pains were taken to remove sizes of this description, prior to boiling and bleaching, a noticeable improvement has been observed in the levelness of this type of print, provided, of course, that efficiency is maintained in other directions.

SPUN-VISCOSE PRINTING. In printing spun-viscose fabrics, the same problem again obtrudes itself, with complications. In this case, the complications are due to the nature of the textile fiber and, in particular, to the

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method of sizing. The printing qualities of this class of fabric differ in many respects from those of cotton, and the problem of penetration of print paste in some of the medium and heavy grades of cloth is one which cannot be ignored. One aspect of this problem is similar to that just discussed; and it will be found when starch is present in material passed on for printing, solid or blotch effects, especially in dark colors, are difficult to obtain in medium-weight fabrics. This type of print on insufficiently desized material will give rise to measly and ill-covered printing impressions, while, in many cases, much of the surface print paste will wash away in the after-treatments. Vat-printing blacks are particularly likely to cause trouble of this nature. When the cloth is well desized prior to bleaching, and prepared before printing with a good wetting-out agent, such as one of the highly sulphonated oils, no trouble need be experienced. In brief, it may be stated generally that for all types of cellulosic and regenerated cellulosic materials, a thorough desizing as indicated, followed by any of the usual boils and finally a peroxide bleach, will usually solve most of the problems arising during the processes of size removal. The problem has, of course, other approaches.

REMOVAL OF THICKENINGS. This again is a different type of problem, posing as it does two main aspects: first, removal of surplus thickening; second, removal of surplus dyestuff, much of which is held on the surface of the fabric by the action of the thickening. In the first place, it is necessary to remove the thickening in order to produce a soft handle in the finish; and in the second place, to obtain a clean unprinted ground whereon to set off the printed pattern. A soiled ground in every case detracts from the bloom and brightness of the print colors and every effort must be made to prevent this.

Much will always depend upon the type of dyestuff which has been used in printing, the thickening agents used, and the affinity or not of the cloth for the dyestuff as it is held in solution or suspension in the wash liquors. Examples of the latter factor may be (1) acid and basic colors printed on natural silk, (2) cellulose acetate dyestuffs on cellulose acetate rayon, (3) direct and acid dyestuffs printed by the urea process on regenerated viscose rayons, etc. The weight of the printed patterns is another important factor, as is also the method of printing, screen prints being in all cases the most difficult

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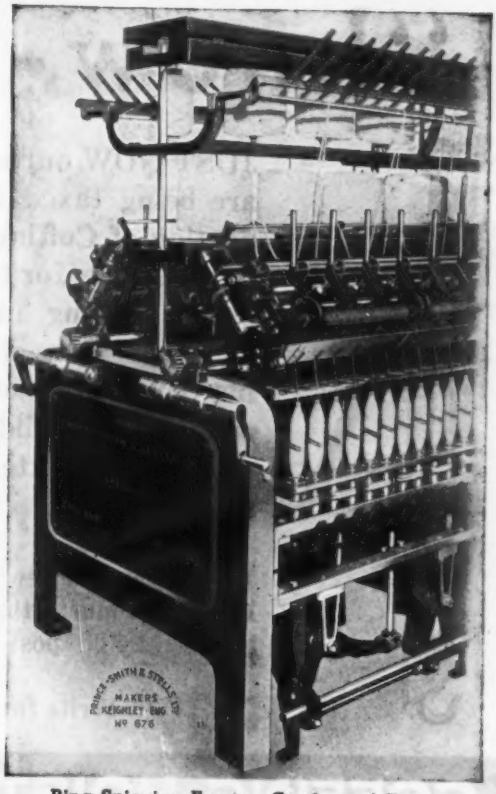

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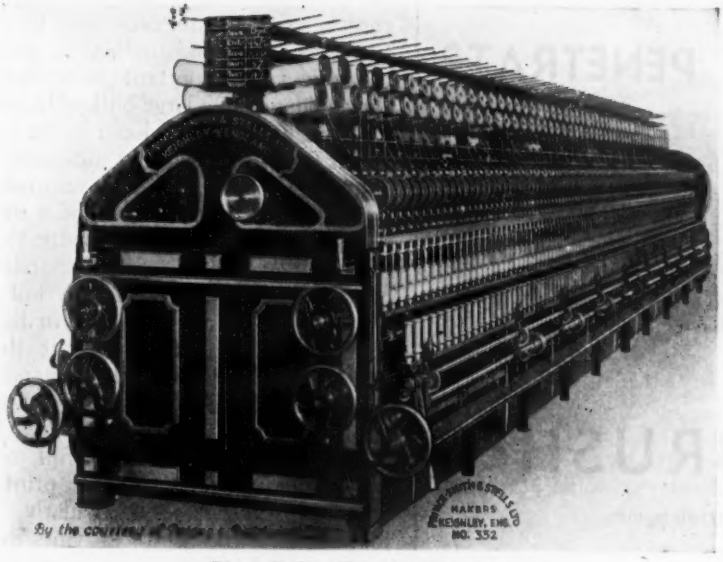

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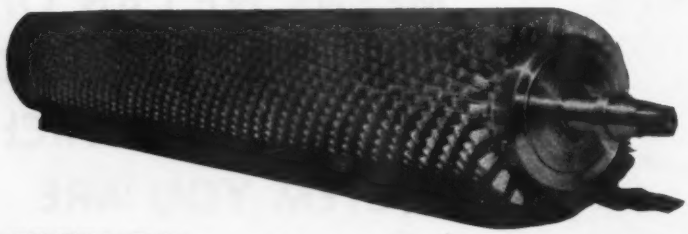

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to handle from this point of view, especially in heavy blotch patterns and in dark colors.

Another type of dyestuff; namely, the chrome mordant class which is used in certain of the cheaper styles of print, may give considerable trouble in removal, since the fixation of the dyestuff by a mordant also brings about a certain amount of fixation of the starchy material in the thickenings as well. This often gives rise to problems in softening and the removal of surplus dyestuff which are met in some instances, as in rayon printing, by the use of special mordants (e.g., chromium lactate instead of chromium acetate), the addition of lactic acid to the print paste, and the use of proprietary mordants. When the chromium acetate alone is used, however, the surplus thickening will have to be re-removed by means which, in many cases, necessitates the use of enzymes.

ENZYME APPLICATION. When it is proposed to use enzymes, the goods should first of all be given a thorough and prolonged hot rinse prior to soaping, for the removal of as much of the top surface color as possible with any adhering metallic mordant. The goods should then be plaited down on trucks through an enzyme bath (suitably adjusted as previously indicated) and allowed to lie for a short time before being given a final soaping at 140° F. This procedue will, of course, require modification or intensification as circumstances indicate, according to the type of pattern and method of printing, one very important point being the avoidance of a large bulk of heavily printed goods plaited down in the wet state. It is obvious that marking-off and bad staining of the unprinted parts is likely to take place under such conditions. Some of the faults thus produced would, in all probability, clear up in the final soaping; but if some of the print shades are in light tones, it is also probable that they would not withstand the extended soaping required for complete clearance of the white ground.

For the production of a full, soft handle on spun-rayon goods printed with vat dyestuffs, particularly in blotch styles, the use of enzymes during the washing-off processes is very helpful. Vat dyestuffs in printing give their best color value with starch-tragacanth types of thickening and in many cases the colors are oxidized after ageing by passage through bichromate solutions which also have some tendency to fix the starchy matter. In such cases, it will usually be found that the goods are boardy and stiff even after extended soaping at the boil. The remedy will be found

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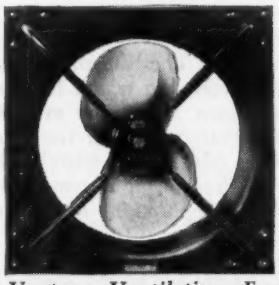
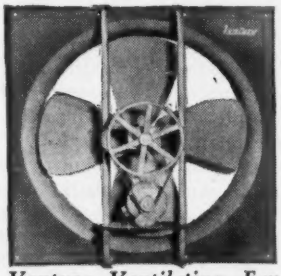
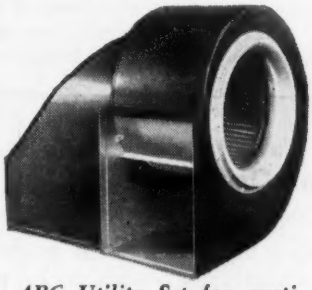


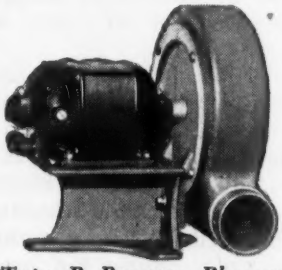
Ventura Ventilating Fan with direct connected 2-speed fully enclosed motor.



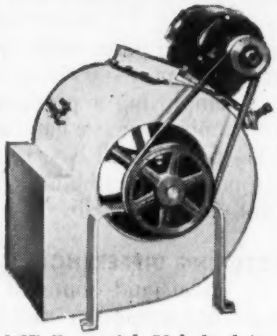
Ventura Ventilating Fan with V-belt drive.



ABC Utility Set for ventilating with a duct system.



Type P Pressure Blowers.



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in the adoption of a similar type of after-treatment to that recommended above for the chrome-mordant prints.

When possible, continuous desizing, using one of the rapid types of enzyme, is recommended as being very economical of time and steam.

* * *

EDITOR'S NOTE: *The superintendent of a large print works, to whom this manuscript was shown, comments as follows: "In printing cotton cloth of the conventional 80x80, 68x72, and 64x60 volume lines, the starch-removing enzymes do not have a wide application in American printing.*

"In preparation, the removal of the non-cellulose materials by the regular kier-boil process has been adequate for preparation of these fabrics for printing without a preliminary desizing by enzyme treatment.

"After printing, the enzyme requires too much time to fit into the high-sped soaping and finishing equipment that the American printer uses to produce the low-cost volume lines of print cloth.

"In special finishes, particularly where application of synthetic plastic or resin emulsions is to be made, it has been necessary to get complete removal of starch thickeners, and enzymes must be used; but unless complete removal of starch is demanded, the finisher of the standard print cloths overcomes the stiffness of the printing thickener by oil emulsions and mechanical breaking and calendering."

Cotton Combing

(*Continued from page 131*)

have job assignments which produce a greater number of pounds per hr. per operator. This factor, and not improvement in mechanical design or operation, accounts for lower labor costs.

The selection of the proper preparatory processes, with the consideration of their costs per pound and the quality of the prepared lap, is as important to the prospective buyer of comber equipment as the selection of the comber itself. A brief comparison of the cost of preparing the laps for the comber process is interesting.

Mill No. 4 (Fig. 1), using only a sliver lapper for lap preparation shows the lowest labor cost—.096¢ per lb. Mill No. 5, employing a pre-drawing and a sliver-lapping process, has a labor cost of .231¢ per lb. Mill No. 3, using a sliver lapper and a ribbon lapper, shows a cost of .198¢ per lb.

MANUFACTURING DIFFERENCES. It is difficult to understand some of the apparent inconsistencies in the labor costs of the various methods used in lap preparation. Mill No. 8, spinning a high-quality 116s combed sales yarn, finds it feasible and profitable to em-

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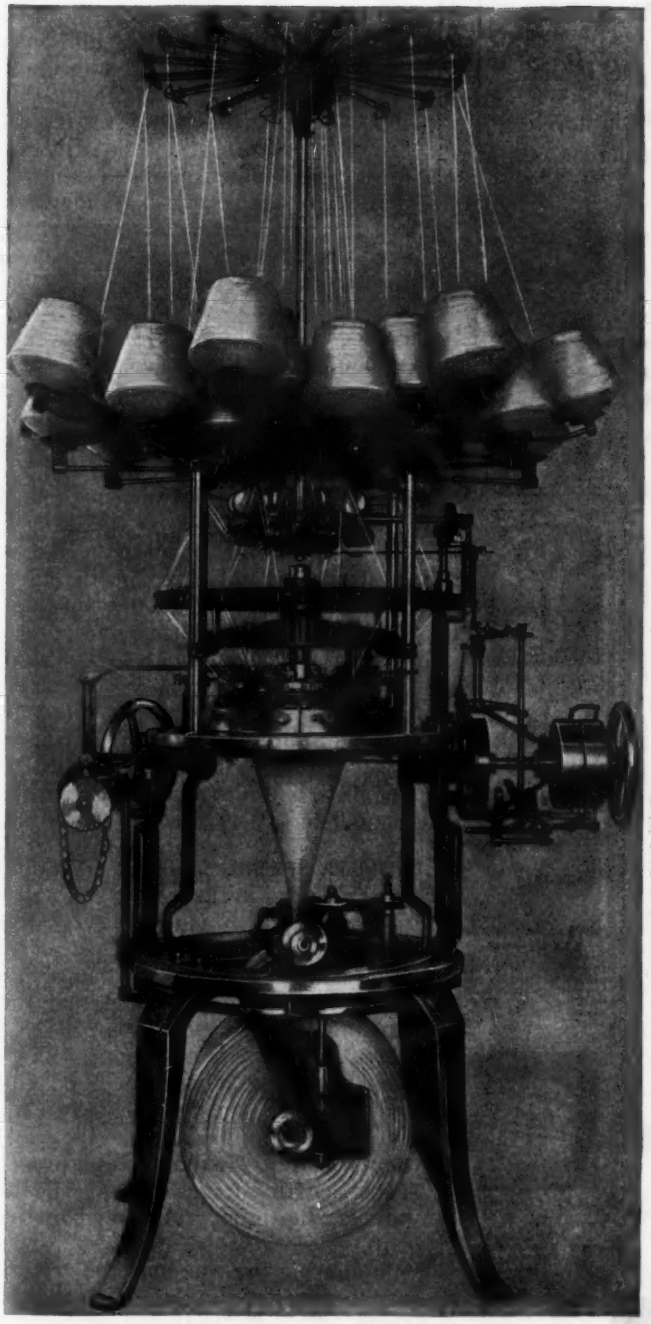
FOR NEW PRODUCTION FIGURES



One plus one equal two, whether it's battleships or bodkins, gremlins or garments. Let the

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make a practical application of this simple principle on your production schedule. Occupying exactly the same floor space as an 8-feed machine, this new multiple feed machine can actually more than

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using only about one-third more power. That's a two-for-one proposition you cannot ignore. Knitting mills all over the country are enjoying this remarkable production step-up as well as a finer, more uniform product and many other operational advantages of this truly modern Wildman machine. Write for complete details.

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REDUCES TANGLES, CREASES, SLIP, AND STREAKS, SAVES UP TO 10% DYESTUFFS & 30% STEAM.

Will also dye any fabric from 5 oz. flannels to heavy pile fabrics.

Efficiency due in part to large drum type knurled reel, which may be equipped with humps, and in part to correct ratio of dye liquor per lb. of cloth.

Improved heating and washing systems. Positive variable speed V belt drive, 3/16" plates. Solid rubber plug.

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ploy only sliver lappers and ribbon lappers at a low direct labor cost of .244¢ per lb. At the other extreme, Mill No. 5, making a 40s medium-quality yarn, finds it necessary to use pre-drawing and silver-lapping at a cost of .231¢ per lb.—a cost almost equal the cost of the high-quality mill—with no apparent improvement in either the lap or the comber sliver.

Fig. 1, which is compiled from various mills on a wide range of yarn numbers, staple lengths, and percentages of waste, shows other differences. These very variations attest to the versatility of the cotton comber and are of the greatest value in selecting the minimum of preparatory processes necessary to prepare a lap sufficiently smooth and even for the comber nippers. It should be pointed out again that comber manufacturers state that the improved design and construction of modern combers permit a firm grip of nippers on a somewhat ridgy lap, prevent plucking, and remove the necessity of either a ribbon lapper or the pre-drawing frame.

Poor nipping will show up in the comber sliver and will increase the amount of long fiber in the noils. Fiber arrays of the noils on all combers should be made frequently. Faulty settings, timings, and equipment cause the loss of much good fiber; and the fiber-array test is the only method of detecting it.

The size of the job assignments vary greatly in the mills given in the table. None of them overload the operator, and job assignments are governed in a large measure by local labor conditions. The size of assignments on present card and drawing jobs will influence the probable assignments on lappers and combers. The price per hr. or per hank will also be affected in like manner.

COMBER SPEEDS. Although several mills included in the table give comber speeds ranging from 90 to 120 nips per min., modern practice is pretty well standardized on 100 nips per min. It will also be noted that the amount of waste varies from 10% to 27%. This variation of course will depend upon the quality of goods required and the quality of cotton used. Great care should be taken in the selection of cotton. It should be of proper staple length, strength, and grade to produce the properties desired in the yarn.

Following the combers, one process of drawing is the general practice. Break tests indicate that stronger yarn is produced when using one process of drawing than when using two processes. These tests also strongly emphasize the importance of correct timing in the piecing of the comber

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Operating her simple spinning wheel, she didn't have to worry about loose set screws. But with the high-powered machinery used in today's mills, vibration brings the problem of loosened fastenings—which may result in high maintenance costs, loss of time, and even danger to machine operators. Solve the vibration problem with the

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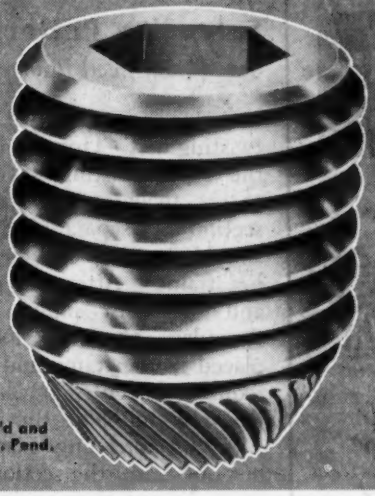

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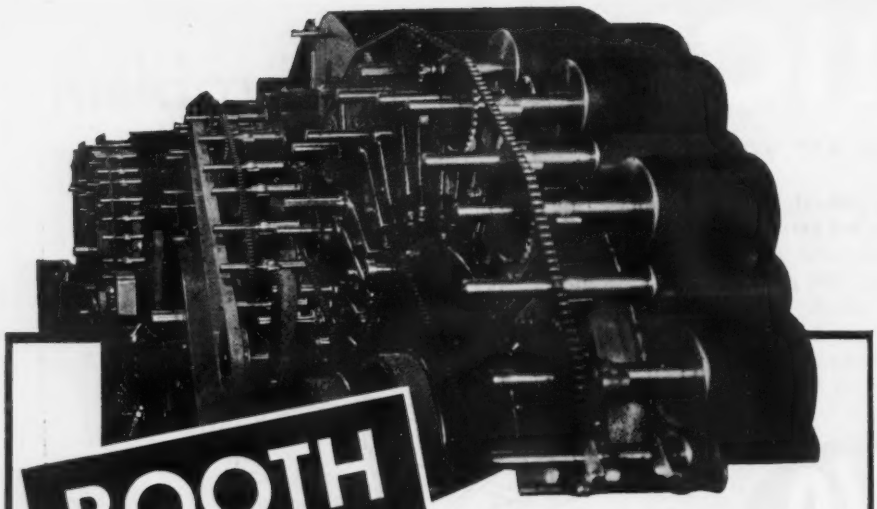

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sliver. Its effect on yarn strength is important.

Fiber arrays offer the only practical method of determining the efficiency of the comber in the control of fiber lengths removed as noil. Waste percentage tests will determine the amount of noils by weight and percentages but will not give the length value.

Fig. 2 shows an array outline of the length of both sliver and noils. With the use of such arrays one can tell definitely when an excessive amount of good, long fiber is being extracted as waste. Fig. 3 shows an analysis of a fiber array which should prove interesting as a guide for this work. In making this analysis, the array is broken down by fiber-length intervals of $\frac{1}{8}$ in. or $\frac{1}{4}$ in., and the percentage of fiber in each length interval is determined by weight. Efficient modern combing practice requires frequent analyses of fiber arrays and waste tests.

For additional material on cotton combing, see TEXTILE WORLD *for May, page 112.—Ed.*

Salvaging Patterns

(*Continued from page* 141)

the ground is placed in the frame for twisting first. This can be handled on the regular twisting (or tying) machine, as the machine operator twists each section as a separate unit. Each group should start and end on a corresponding frame. After the job is twisted and the twist pulled through, the secondary or fancy loom beam is placed in the frame and the few ends required for entry are drawn through. Reeding completes the job.

If the foregoing example requires but one warp, the sections are twisted through, and the required amount of ends for the stripes is dropped until after the ground has been twisted. These dropped ends are next entered, and final reeding completes the job.

Another time-saving method of utilizing fancies for other weaves is to remove the design shafts and hold the ground entry for plain weaves. The ground entry may comprise two, four, six, or more shafts. For the regular run of every-day weaves such as tabby, twill, or satins, the saved entry can be twisted faster than a new set entered. After twisting, the proper reed completes the set.

Of course, no one will overlook the possibility of salvaging patterns that happen to have not quite enough or a few too many ends. Heddles and drop-wires can be added or removed, and drawn in, quicker than the whole pattern can be drawn. It is rare that plain or twill harnesses need be dis-

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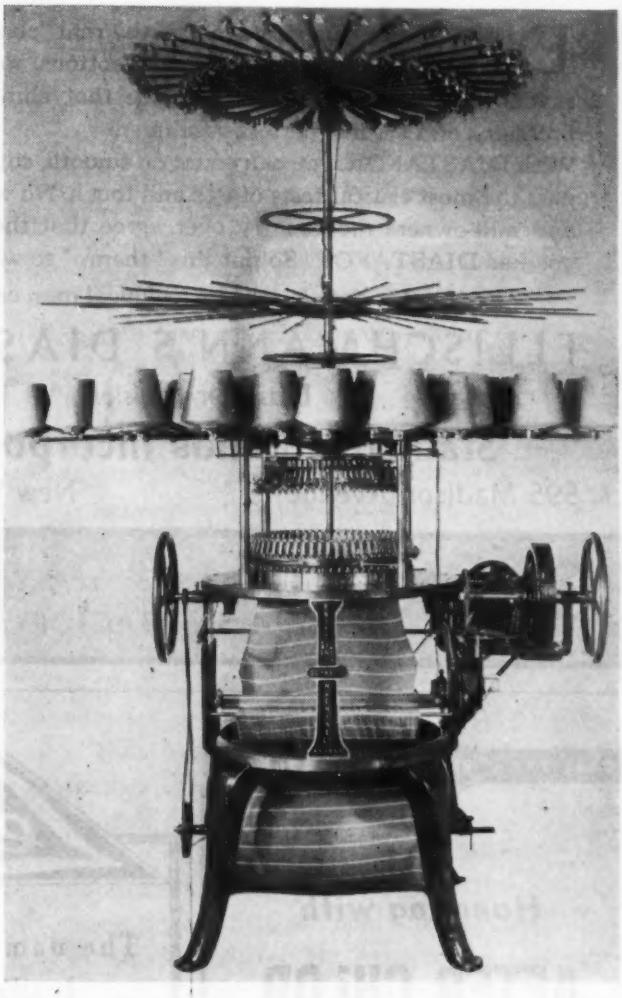

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carded completely if still in sufficiently good condition to run.

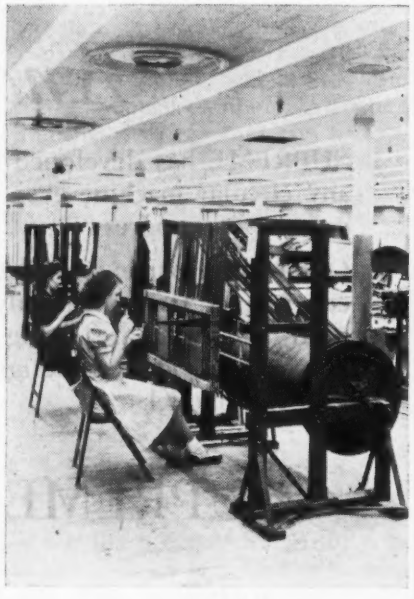
TABBY-WEAVE PATTERNS. As a majority of weaves are done on even-numbered shafts, the manipulation of such entries offers the most interesting methods of cutting time and costs between the twisting and weaving room on new change-overs. All the methods described hereafter are actual accomplishments that have proved of value, time after time.

During a sudden demand for an eight-shaft weave of a 52/4/1, one manager, realizing the order was small and the entering expensive, decided to try to run the weave on a six-shaft pattern as plenty of six-shaft harnesses were on hand. A trial run was made and results were beyond expectations. The twisting cost of the new weave of 52/4/1 was low, and the weaving price, based on six, in place of eight-shaft, lowered the cost slightly.

Going further with the idea, this same manager, having some four-shaft duplex-heddle harnesses on hand, tried out a few sets on the same weave of 52/4/1. A further reduction in costs followed. The four-shaft cost less to weave, and production actually increased since weavers thought the new jobs were easier—and they were right! The four-shaft job, although the same weave as the eight-shaft job, gave better cloth and ran better in the loom.

SPLITTING PATTERNS. In one instance, six-shaft patterns were broken in two sets of three shafts each for twills. The cost was only a fraction of that which would have been incurred if the sets had been completely broken up and re-entered.

For light jobs where two-shaft sets



Drawing-in is an expensive operation that very often can be avoided.

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could be used satisfactorily, weavers will produce better cloth at a higher rate of production if such weaves are placed on two shafts instead of four. The same is true for weaves on three-shaft twills—do not use a six-shaft entry if a three-shaft will suffice.

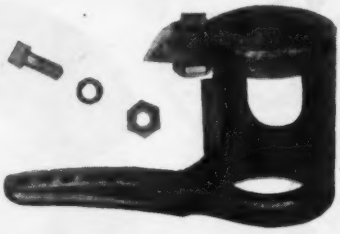
In times of need, it is possible to do the opposite, to make use of extra-frame sets. Thus, an eight-shaft harness can be utilized for six- or four-shaft weaves. But, if such weaves are expected to last for a lengthy run, it would be better to break up the eight-shaft sets as looms run empty.

SPEEDY REEDING. Naturally in changing weave constructions, the new weave will undoubtedly call for a different reed with more or less dents than the reed already in place. To illustrate this point better, further examples will be cited.

Suppose the old harness set is a six-shaft 45/3/1 taffeta. The new construction is supposed to be an eight-shaft 38/4/1. After the eight-shaft job has been twisted on the six shaft harness set, the 45-dent reed is removed to make way for the 38-dent reed. On the eight-shaft, an equal number of shafts for reeding would have made it possible to "chop" the reed quickly. The entry is a straight-draw, lifting 1-2-3-4 up and 5-6-7-8 down for the final cross for reeding. By holding the cross in the one hand and using a bone, wood, metal, or fiber reed knife, the required 4 ends per dent could be chopped in. On the six-shaft set, a positive cross cannot be taken for a 4-end reed entry so the shafts are brought into a 3-cross count. This is done by lifting 1-2 approximately three inches, 3-4 about one inch, and by dropping 5-6 slightly below the reed level. This allows a certain amount of chopping which can be readily taken advantage of by an experienced reed stitcher.

The same principles are applied on six-shaft jobs woven on four shafts if the reed count is 3/1. From four shafts the count would be 1-2-3 shafts in dent 1, 4-1-2 shafts in dent 2, 3-4-1 shafts in dent 3, 2-3-4 shafts in dent 4, etc., repeating the full width of the reed.

On an eight-shaft weave woven on four-shaft harness using the 38/4/1 count, a cross must be taken on 1-2 shafts and 3-4 shafts, although all 4 ends from the four shafts are stitched in each dent. In this or similar instances, where opposite crosses of an exact number of reed stitchings are crossed, the reed knife must be placed in the required dent. While the left hand holds the cross, the right hand places the knives in their respective dents, releases the knives, and



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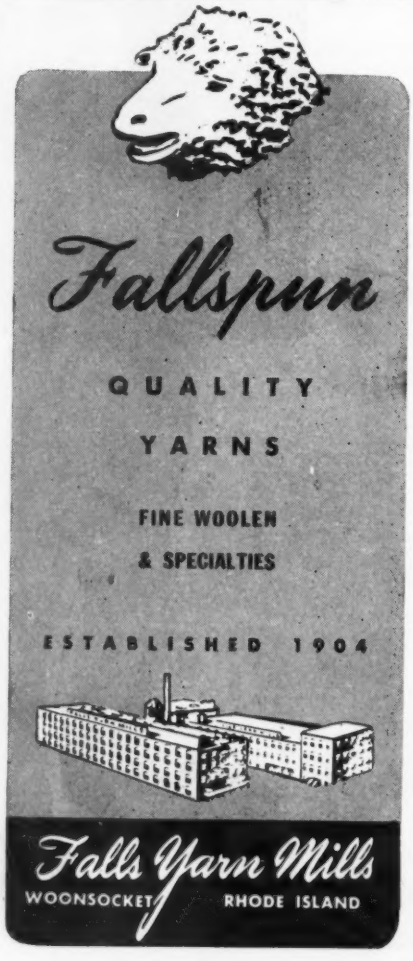

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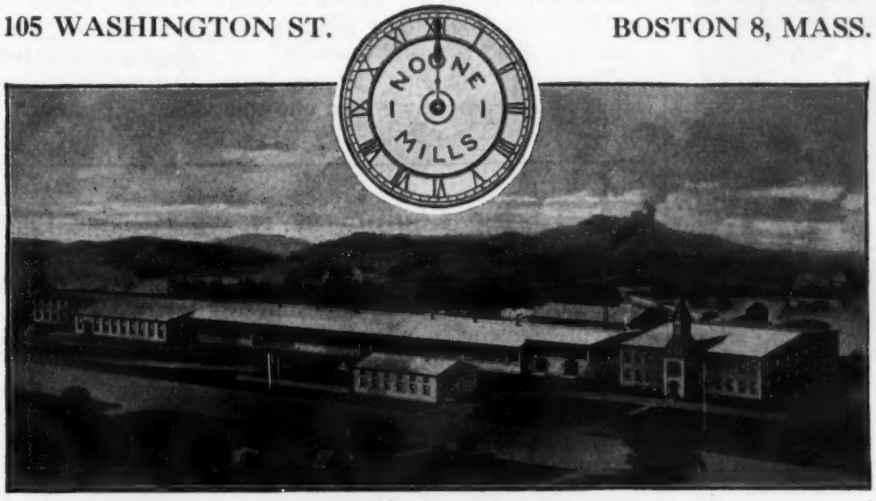

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picks out the required bunches of crossed ends to complete one dent. The right hand then places the total bunch of ends for that dent beneath the next knife, releases the ends, and pulls the knife through the dent in bringing the ends down through.

In chopping reeds with a true cross, time required for a 40-dent reed approximately 45-inches in width will be about an hour. For picking out ends this time is nearly doubled.

The term "chopping" as used here refers to a reeding more than one end at a time. It is rare, except for the few fabrics reeded one end per dent, that chopping cannot be employed. It differs from that reeding in which the required number of ends are individually assembled on a reed hook and pulled through. When chopping, more than one end is placed on the hook at a time. The aim is to engage in one motion the total number of ends needed. The extra time required in preparation before reeding is more than saved in the actual reeding process.

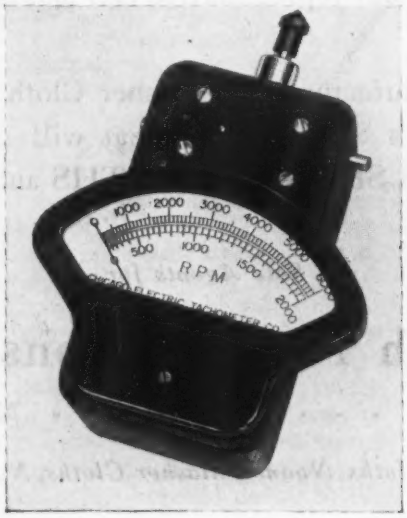
Textile Equipment News (Continued from page 156)

of a spinning frame are removed from their bases, and the machine is slipped into place at the cylinder head. The straps are placed under the cylinder to support it when it is free of the shaft, and the hydraulic pressure is applied by pressing a lever on the machine. The force is distributed over a large area of the rim of the cylinder head by the jaws of the machine, and a smooth, even application of force up to 24,000 lb. may be attained.

Vibration-Free Tachometer

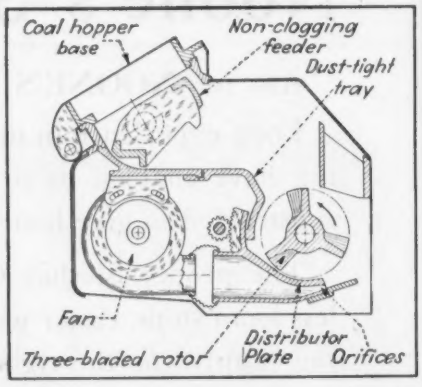
A new electric tachometer for measuring speeds of rotation or motions of equipment has been announced by the Chicago Electric Tachometer Co., Chicago, Ill. The tachometer is small, compact, and highly accurate; and it can be operated in close quarters by lightly pressing the rubber-tipped shaft against the revolving or moving object. The speed is instantly indicated in r.p.m. on a scale over 3-in. long. Surface speeds can be measured by substituting a wheel for the tip.

Model 5-E Tachometer is so designed and constructed that normal machine vibrations do not interfere with the steady, accurate readings. There is no internal gearing of any kind. The speed range many be changed by pressing a button on the side of the tachometer.



Vibration-free portable hand tachometer (Chicago Electric)

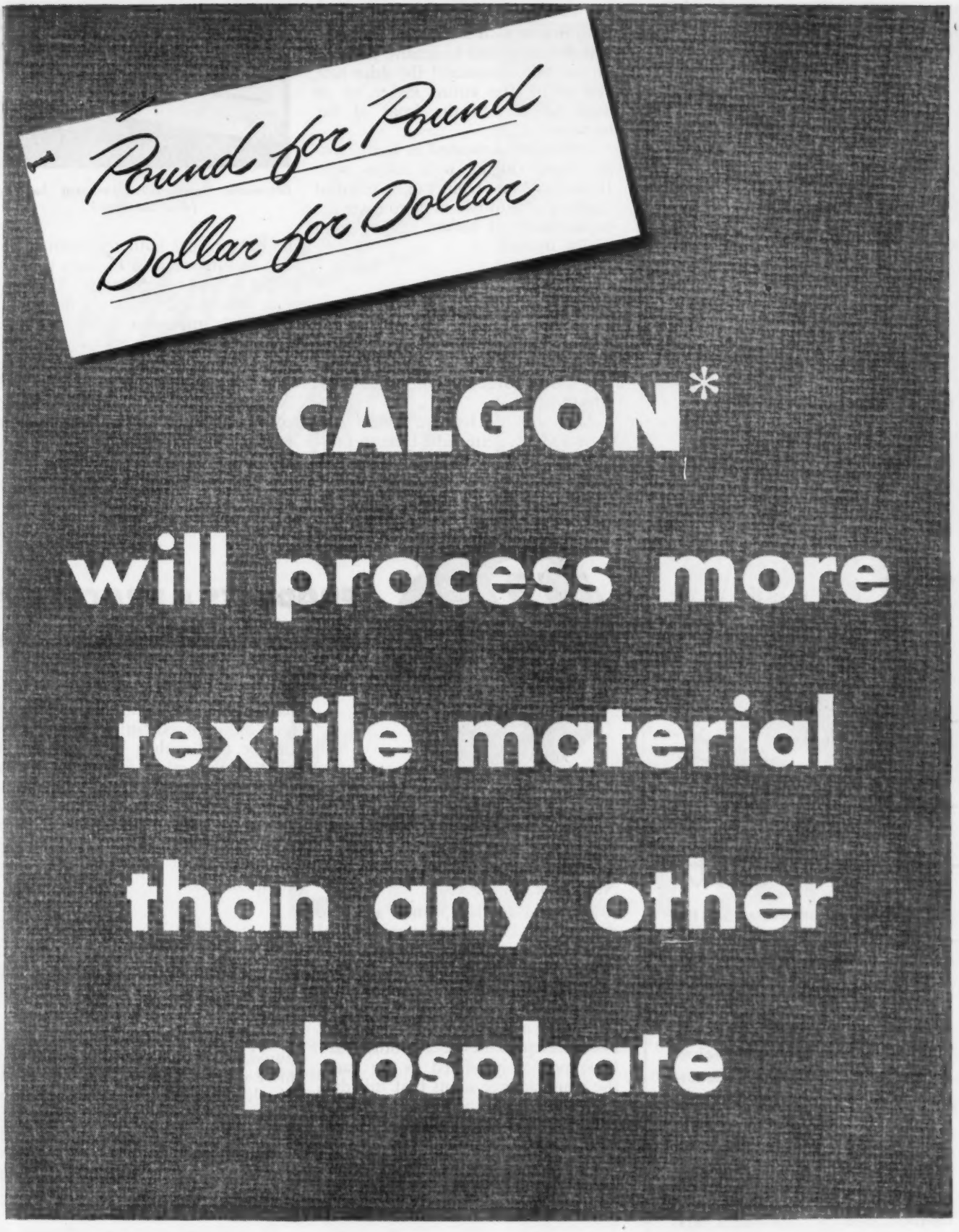
Spreader-Type Stoker for Coal Distribution



Mechanical-pneumatic coal spreader for Boilers (Johnston & Jennings)

A mechanical-pneumatic coal spreader has been developed by The Johnston & Jennings Co., 875 Addison Rd., Cleveland 14, Ohio. A three-bladed rotor receives the coal from the feeder tray and discharges it into the furnace off the end of a distributor plate—the position and slope of which are adjustable. A small, high-velocity fan mounted in back of the rotor, and discharging through orifices under the distributor plate, catches the fines and distributes them also to all parts of the furnace. This overcomes any tendency of the fines to drool down onto the furnace hearth, prevents any segregation of fines on the front grates, and lumps on the rear grates. All exposed parts of the stoker are air-cooled.

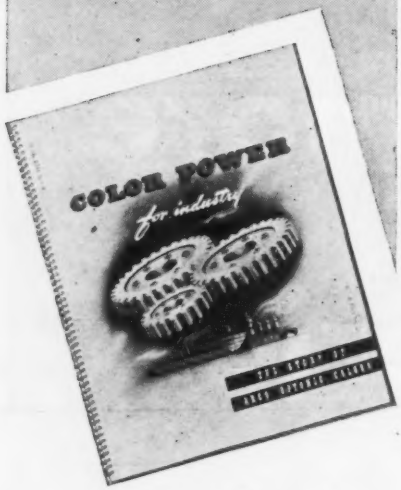
The stoker unit is mounted on the



* Calgon is the registered trade-mark of Calgon, Inc., for its vitreous sodium phosphate products.

Write for Technical Bulletin No. 3 "Calgon Data for the Textile Chemist."
Address Calgon, Inc., a subsidiary of Hagan Corporation, Pittsburgh 30, Pa.

LEARN ABOUT Optonics The "COLOR TONIC" Method of Industrial Painting



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• You'll want to be posted on the ever-increasing importance which science attaches to the FUNCTIONAL use of color as a "tonic" in industry—to improve production, safety conditions and employee morale and to reduce absenteeism. A new book, "Color Power for Industry", tells you how the Optonic Color System operates. Just a note on your business letterhead will bring you a copy with our compliments.

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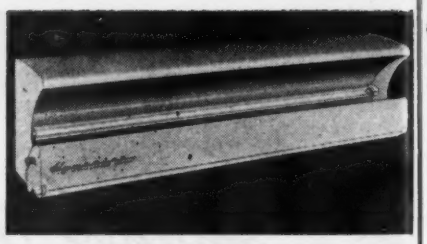
cast-iron boiler front with four hinge pins, two on each side. Consequently, it is an easy matter to remove two pins on one side, disconnect the drive belt, and swing the entire stoker to an angle of 90° to the front of the furnace.

Stokers are furnished in four standard sizes, ranging with rotors from 16 in. to 32 in. Units can be installed singly or in multiple units to meet the requirements of boilers ranging from 75 hp. upward.

Air Disinfector

American Sterilizer Co., Erie, Pa., has recently placed on the market a new model Hygeaire unit for air disinfection.

This unit of Hygeaire system employs a G. E. germicidal tube to project intensified ultraviolet rays across living or working areas above eye level. A scientifically designed reflector provides both optimum intensity and diffusion of the rays that are lethal to air-borne bacteria. The unit may be recessed into the wall, or wall or ceiling suspended.



Ultraviolet lamp kills air-borne bacteria (Am. Sterilizer)

Because more than 85% of the ultraviolet energy output of this new unit is of the germicidal wave length (2537 Angstroms) it will assist industry in combating absenteeism caused by cross infection in offices and plants. Distribution is through The Graybar Electric Co. and General Electric Supply Corp.

PRODUCTS & PROCESSES

DYES & CHEMICALS

Blue Resists Gas Fading

EASTONE BLUE BGF; Tennessee Eastman Corp., 10 East 40th St., New York 16, N. Y.

Eastone Blue BGF, a new azo blue dyestuff, is said to possess exceptional resistance to gas fading. As is true of the azo acetate colors, this one is dischargeable and thus is of interest for ground shades in printing. While it is said to dye and level at somewhat lower temperatures than other azo blues previously offered to the trade, the manufacturer warns that this dyestuff should not be used on highly twisted fabrics at temperatures below 180° F.

This color may be used on either box or jig when dyed at elevated temperatures.

New Source of Chlorinated Paraffin

DIAMOND CHLOROWAX; Diamond Alkali Co., Pittsburgh 22, Pa.

This company announces a new and different type of chlorinated paraffin, Diamond Chlorowax, resinous in nature and possessing flame-resistant and moisture-resistant properties. It can be used with a large number of plastics and other film materials in the formulation of coating compounds to render them flame-resistant, as well as water- and moisture-proof. Such formulations are said to be satisfactory either as paints or as textile-finishing compositions.

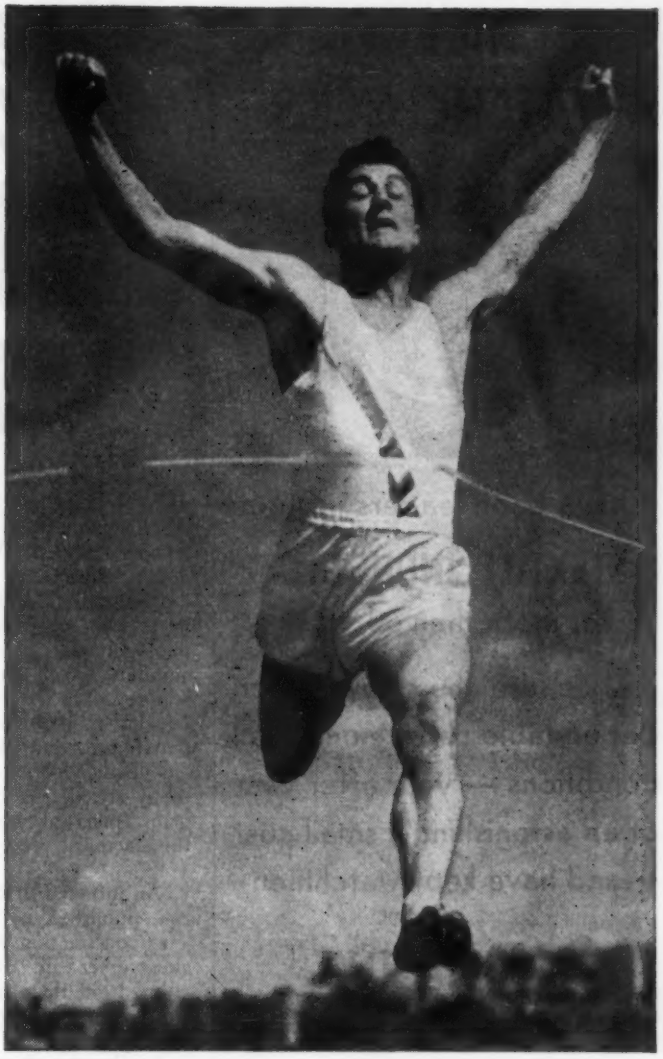
New Solvent

TRICHLORETHANE; Carbide & Carbon Chemicals Corp., 30 East 42nd St., New York, N. Y.

Trichlorethane is a colorless volatile liquid, soluble in alcohol, ether, and most organic solvents, but not easily dissolved in water. It is said to be a good solvent for cellulose acetate and most oils, fats, natural rubber, and certain types of synthetic rubber. Thus, it may have possibilities as an extractent of these materials from textile fabrics.

It is classed as a non-inflammable solvent at ordinary temperatures. Being of a volatile nature, it should be used with adequate ventilation since its fumes are some[illegible] the abraser testing than some of the [illegible]nents briefly upon inated solvents s[illegible]ment. Designed to ene, ethylene dic[illegible]or abrasion resistance tetrachloride. [illegible]complishes its pur-

FOR A DEPENDABLE PERFORMANCE!*



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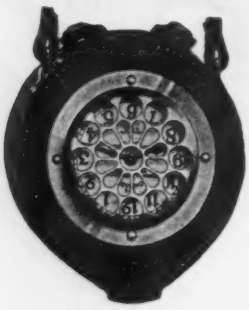

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MANUFACTURERS' BULLETINS

READERS interested in literature reviewed on this page may secure copies with time-saving coupon on page 220. Mark what you want on it and send it to Textile World, 330 West 42nd St., New York 18, N. Y. Be sure to give your name and company connections.

1. **Water-repellent qualities of Aridex** are described and illustrated in a 16-page booklet entitled "Weatherwise Merchandise", published by DuPont's Textile Service Section. Emphasizing that Aridex is never out of season, the booklet shows photographs of men's, women's, and children's wear for all purposes and all seasons. One of the highlights of the booklet is a highly styled rain-or-shine coat for women. Besides presenting various textile fabrics which have been expertly styled, the booklet points out the many practical advantages derived from this chemical process.

2. **An infra-red dryer** is described in literature published by The J. E. Doyle Co. The construction and uses of the open glow dryer are dwelt upon, and it is pointed out that the dryer is finding wide application in the textile field.

3. **Leather packings** are discussed at length in a 62-page booklet published by the Chicago Belting Co., with particular attention being paid to the design and application of leather packings. In addition to presenting a large line of packings for various industrial uses, the publication contains detailed pictures of engineering and maintenance uses. One page devoted to "20 don'ts for hydraulic and pneumatic packings" could well become the subject of study for textile plant shop men.

4. **The story of music-at-work** is presented in a booklet recently published by Executone, Inc. The booklet gives the history of music in plants and factories from its earliest applications to the modern planned programs now being used. Details of the early experiments in this field by Edison and others mention the great strides made by English factories during the blitz and the growing acceptance of industrial music in this country. Space is devoted to tests recently made by the government and colleges into the results obtained from the playing of planned music in plants and factories.

5. **The prevention of rust in industrial water containers** is the subject of a booklet published by The Johnston & Jennings Co., entitled "Rusta Restor." Declaring that rust is public enemy number one, the booklet estimates that rust alone costs industry half a billion dollars a year. Three interesting laboratory experiments, the results of which form the basis of the Rusta Restor method of rust prevention, are presented and illustrated by drawings. The remainder of the booklet is devoted to texts and pictures concerning the commercial application of this scientific principle of preventing rust electrically.

6. **Types of textile finishing** are discussed in Esso Oilways, published by Standard Oil Co. The Clearwater Mfg. Co., Clearwater, S. C., is taken as an example of an outstanding textile finishing plant, and the many phases of finishing done by Clearwater are briefly mentioned. The principal operations dealt with are mercerizing, bleaching, dyeing, printing, Sanforizing, and making textiles resistant to salt, water, and mildew.

7. **Handling materials** is discussed in "Facts About Towmotor", a well-illustrated booklet published by Towmotor Corp. Labelling the towmotor as the "one-man-gang," the bulletin illustrates the adaptability of the towmotor in handling many sizes, shapes, and weights of industrial materials. The special features, points of construction, operating data, and advantages to be derived from the use of the towmotor are discussed.

8. **"Bump Pump"** is the title of a booklet published by the Bump Pump Co. Stating that the bump pump principle of operation eliminates turning and agitation within the pump, the booklet goes into some detail in describing the advantages and the features of construction of this industrial pump. Sketches are included to aid plants in selecting the pumps needed to meet their individual pumping problems. Included also are useful tables on the friction of water in pipes.

9. **The Taber Abraser** is described in a booklet recently published by Taber Instrument Corp. The well-illustrated booklet shows the parts of the abraser testing set in detail, and comments briefly upon the use of each attachment. Designed to reveal the wearability or abrasion resistance of fabrics, the tester accomplishes its purpose by duplicating the rubbing abrasion

Keep Your Quality Up with Hooker Quality Chemicals

Below are listed some of the Hooker chemicals that are helping dye and textile chemists maintain prewar quality standards.
That's because there has been no deterioration in Hooker quality. There may be limitations on the quantities of Hooker chemicals available right now, but when you do get your shipment, you can be sure it is of the same uniform high quality you have always received from Hooker. More complete information on these and other Hooker chemicals is available when requested on your letterhead. Hooker's technical staff is also ready now, as always, to give you help in the use of Hooker chemicals.

PRODUCT	*FORMULA*	*DESCRIPTION*	*SUGGESTED USES*
Aluminum Chloride Anhydrous	$AlCl_3$	Gray crystalline solid	Catalyst in syntheses of dye stuffs and intermediates
Antimony Trichloride Anhydrous	$SbCl_3$	Yellowish solid	Catalyst in organic syntheses—Mordant
Benzoate of Soda	C_6H_5COONa	White crystalline solid	Intermediate for manufacture of dyes
Benzoic Acid	C_6H_5COOH	White crystalline solid	Manufacture of dyes—Mordant
Benzoyl Chloride	C_6H_5COCl	Clear, colorless to light yellow liquid	Dyestuff intermediates
Chlor Anisidine	$NH_2 \cdot C_6H_3 \cdot Cl \cdot OCH_3$	Gray crystalline solid	Dye intermediate
Cyclohexanol (Hexahydro Phenol)	$C_6H_{11}OH$	Clear, colorless liquid	Solvent
Metanitrobenzoyl Chloride	$C_6H_4NO_2COCl$	Yellow to brownish liquid, partially crystallized	Manufacture of dyes
Orthodichlorbenzene	$C_6H_4Cl_2$	Clear, colorless liquid	Solvent, dye intermediate
Paranitrobenzoyl Chloride	$C_6H_4NO_2COCl$	Yellow crystalline lump material	Manufacture of dyes
Sulfuryl Chloride	SO_2Cl_2	Light Yellow Liquid	Chlorinating agent. Forms chlorides and anhydrides of organic acids
Thionyl Chloride Refined and Technical	$SOCl_2$	Colorless to yellow or pale red liquid	Chlorinating agent. Forms organic acid chlorides

Caustic Soda — **Sodium Sulfide**

Muriatic Acid — **Bleaching Powder**

Chlorine — **Sodium Sulfhydrate**

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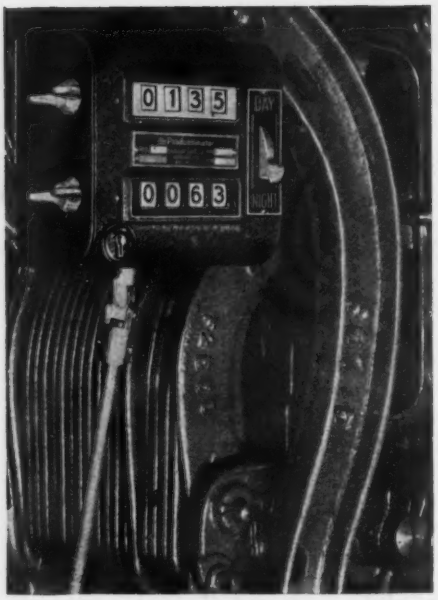

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With the production machines of the nation humming on toward another Victory, still more pieces and parts must be counted . . . on some it will be revolutions . . . on others turning out materials, the count must be measured in feet or yards. Whatever it is, you can depend on

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to give you the exact count . . . and at the same time, provide you with vital information on each machine . . . whether it is running to full capacity, keeping up with production schedules, when it needs servicing. They're built for hard usage . . varying speeds . . their performance is guaranteed.

Illustrated above: Installation of Two Shift Center Drive Loom Pick Counter on Compton & Knowles Loom.

Other models in the Productimeter line for application on various processes . . . braiding, coating, combing, doubling, drying, folding, inspecting, winding, dyeing, bleaching, weaving.

Send for Textile Counter Catalogs

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Yardage Counters No. 6
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which a fabric encounters in actual service. The resistance quality of the fabric is shown automatically by the tester as "wear cycles". This figure is referred to as the "wear rating."

10. Making fabrics crease-resistant is the subject of a pamphlet published by The T. B. Lee Co., entitled "News for the Wrinkle Weary." In simple terms, the pamphlet on Tebilized fabrics describes how rayons, cottons, and linens are impregnated with precondensed resin to give them crease resistance which will not wear out, wash out, or deteriorate under dry cleaning. The pamphlet is illustrated by cartoon drawings in two colors.

11. Moisture content control is discussed in a bulletin issued by the Barber-Colman Co. under the designation F-1705-1. The bulletin emphasizes that their new electronic controller will accurately measure and record the moisture content of warps within a small fraction of 1% by controlling the speed of a slasher in relation to the moisture content of the yarn delivered by it. Illustrated by photographs and sketches, the bulletin points out that the controller can be used on cotton and other natural fibers, and on spun rayon, filament rayon, and other synthetic fibers.

12. Selection of processing oils is discussed in the April-May issue of *The Houghton Line*, published by E. F. Houghton & Co. Special emphasis is placed upon the importance of using a processing material upon wool and worsted fibers which will allow the fibers to retain the amount of moisture needed to insure the results desired. Included also in the *Line* is a short list and brief description of processing materials developed by Houghton's research department.

13. Training help to improve combing is the subject of an article appearing in the April issue of *The Traveler*, published by the Victor Ring Traveler Co. Stating that proper training of new employees is more important at the combing operation than at any other step of manufacturing, the article points out several things which should be considered in selecting a new employee to be trained as a comber operator, and makes a number of suggestions to aid in the training process.

14. Electronic heaters for induction and dielectric heating are discussed in a bulletin of that title, issued by the Allis-Chalmers Mfg. Co. Defining the two types of heating, the bulletin illustrates their application in electronic heaters and points out numerous successful applications. Induction heating of metals and dielectric heating of nonmetallic materials are both said to be readily adaptable to mass production methods.

15. Something new in loop clipping is said to be the Hermas shears, according to *The Clothroom Spotlight*, published by Hermas Machine Co. The 4-page leaflet features the loop clipper and points out several features of it which the manufacturer regards as outstanding. Also included in the leaflet are several practical problems and the interesting way in which they were solved.

16. Electric tachometers to measure speed are discussed in a booklet of that name issued by General Electric. The well-illustrated booklet discusses in some detail photoelectric tachometers capable of measuring electronically speeds up to 60,000 r.p.m. In addition to its presentation of several types of tachometers, the booklet includes data on generators.

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This mailing coupon is a convenient size to paste on a penny postcard. **Circle the numbers of the catalogs you want** which correspond to the numbers on the descriptive paragraphs. Fill out the coupon **legibly** and **completely.** Paste it on a postcard, or put it in an envelope if you prefer, and mail it to Textile World, 330 W. 42nd St., New York 18, N. Y.

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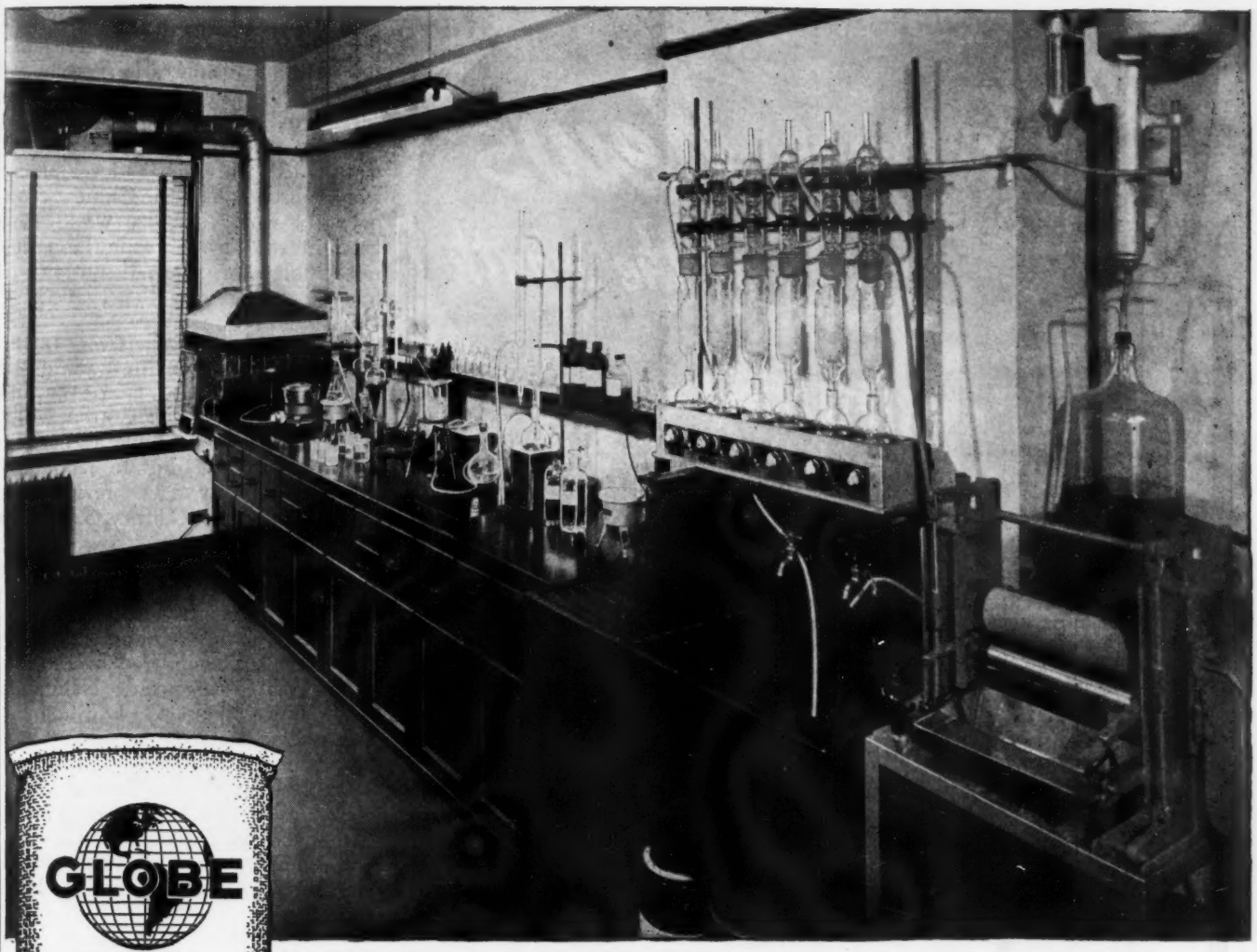

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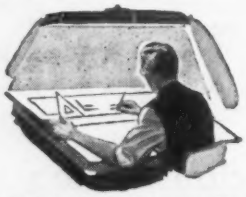
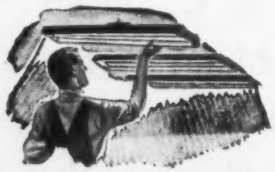
Why THESE THREE PREFER G-E

Users of fluorescent, lighting engineers and maintenance men are enjoying more efficient lighting by using G-E Watch Dog Fluorescent Starters. These manual reset starters have provided the utmost in all-around fluorescent lighting service in war factories all over the nation. That's why these three prefer G-E.

1 *Users*—are more satisfied with lighting fixtures equipped with G-E Watch Dog Starters because they banish annoying blink of dying lamps once and for all.



2 *Lighting Engineers*—specify G-E Watch Dog Starters because of their unusually long life. The Watch Dog outlasts five ordinary starters.



3 *Maintenance Men*—like G-E Watch Dogs because they simplify lighting maintenance to the easy job of pushing a reset button before relamping. Reset it...forget it.

For additional information write to Section G653-109, Appliance and Merchandise Dept., General Electric Company, Bridgeport, Connecticut.

BUY WAR BONDS AND KEEP THEM

GENERAL ELECTRIC

News of the month

Seek International Moisture Content. Wool specialists from nine textile associations met in New York last month under the auspices of the American Standards Association to cooperate in an international undertaking to harmonize the standards for determining moisture content of wool yarn. Under normal conditions, wool contains from 8 to 18% moisture. In Great Britain climatic conditions have caused standardization at 18¼%. In America the standards developed through usage vary from 10 to 13.6% depending upon the type of wool yarn. Standardization, which would simplify the buying and selling of wool in world markets, has been proposed by the Australian Standards Association.

Would Shut World Mart to Jap Textiles. Barring the Japanese textile industry from world markets, except the areas adjacent to the Japanese islands, was urged by William C. Planz, president, in an address before the annual meeting of the Textile Export Association of the United States in New York, May 13. He suggested that Japanese textile agents after the war be kept out of South America, Africa, the Philippines, and the Middle East and all other areas where "they are likely to take advantage of local political disputes to stir up sentiment against the victorious democracies." Removal of Japanese machinery to China, as suggested by Undersecretary of State Clayton, was lauded by the speaker, who added that such a development would not only help the Chinese economy but would stabilize world markets in textiles by removing the nation responsible for the disruption of foreign trade during the 1930s.

War Department Takes Over Textile Mills. The President authorized the Secretary of War to take over and operate the Mary-Leila Cotton Mills, Greensboro, Ga., on June 1, because of work stoppage due to labor disturbance. A few days previous the Gaffney Mfg. Co., Gaffney, S. C., was similarly taken over.

Southern Textile Wages to be Studied. Appointment of a commission to study the rate structure of Southern textile mills has been completed by the National War Labor Board. Named to the commission are C. L. Stephens, Baltimore, industry member; William Pollock, New York, general secretary-treasurer of the Textile Workerns' Union (CIO), labor member; Carl R. Harris, Durham, N. C., alternate industry member; and Frank McAllister, Atlanta, alternate labor member.

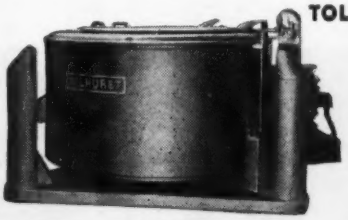
Aid for 39, 42, and 45 Gage. "The hosiery manufacturer who operates 39 gage machines would be out of business if it were not for our activities in his behalf," said R. E. Friedrich, Jr., president of the Independent Hosiery Manufacturers Association at the annual meeting of the group on May 19 in Philadelphia. "Manufacturers with 42-gage machines know that our vigorous intercession in their behalf resulted in favorable changes. Nevertheless, we have yet to see complete and overall changes in both M-37-d

Filene's Sunorama Fashion Show and Dinner in Boston on May 22, 1945, drew an audience including many textile executives. At the head table, left to right, are shown Hugh Ward, vice president, First National Bank, Boston; Robert Amory, president, Nashua Mfg. Co.; Lincoln Filene, president, William Filene's Sons Co., Boston; Ben R. Meyer, president, Union Trust Co., Los Angeles, Cal.

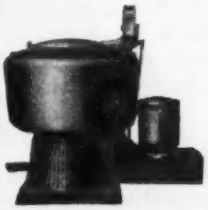
Faster and Better TEXTILE EXTRACTION *for Every Material*

TOLHURSTS have proven themselves time and again the fastest, most efficient extractors in the textile field. For every need, for every material, the right Tolhurst will do it better and faster.

TOLHURST "SUPREX"—For cotton raw stock this 48" extractor has proven its worth, in speed of extraction, economy and production. Smooth, efficient operation is assured by "SUPREX" suspension principle. Higher rotational speeds mean quicker and greater extraction. Timer control eliminates guessing when load is finished.



TOLHURST "CENTER-SLUNG" Every feature of the "CENTER-SLUNG" has been designed to produce greater volume in shorter time. Unexcelled for underwear, tubing, hosiery and other fabrics. The exclusive center-of-gravity basket suspension enables this machine to handle unbalanced loads and assures smooth operation. Available in 40", 48" 60", 72" basket sizes.



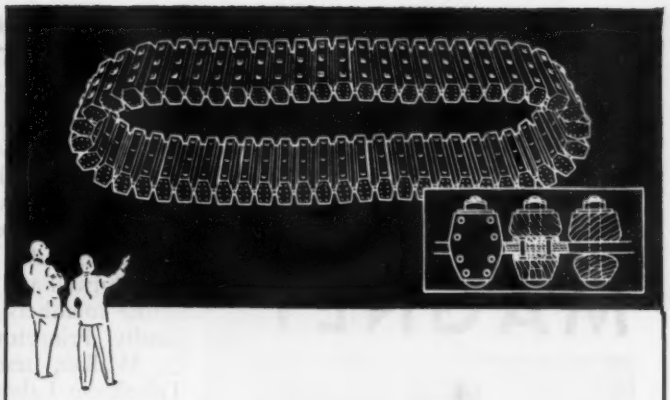
TOLHURST "SOLID CURB" Designed for rapid handling of small loads, the Tolhurst "SOLID CURB" Extractor is ideal for yarn, hosiery and other textiles. Motor drive. Basket sizes 20" and 30"

Write for detailed literature

ARMY E NAVY

Tolhurst CENTRIFUGAL DIVISION

AMERICAN MACHINE AND METALS, INC.
EAST MOLINE, ILLINOIS

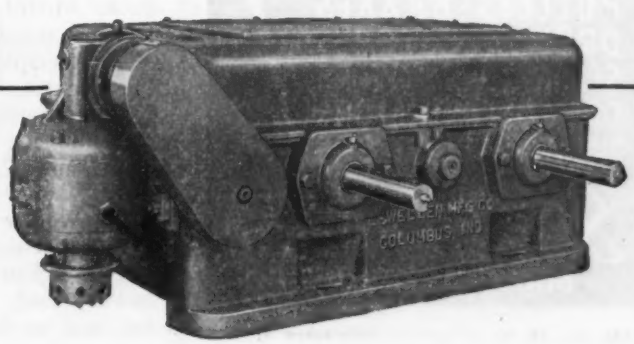


You naturally expect this perfected Double-Block V-Belt from Lewellen . . .

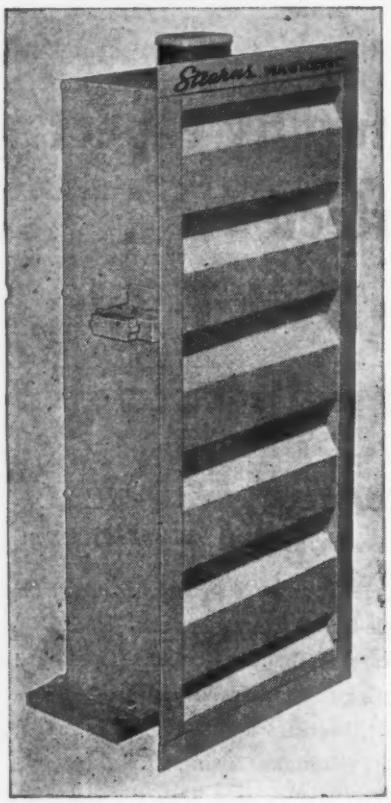
speed control pioneers

● This famous drive is an outstanding feature of Lewellen Variable-Speed Transmissions. Here's why: (1) It gives smooth, dependable performance by transmitting the rated load with less tension upon the belt, bearings and shaft. (2) It reduces slippage to a minimum. A single tip of top-grade leather covers the ends of both the inner and outer blocks as well as the space between the blocks. Since the face of the tips is not ground, the full wearing value of the hair side of the leather is preserved. The result: long life of the belt is assured and a maximum frictional contact with the discs, as it is a perfect V-belt drive. (3) It combines with other patented Lewellen features to make the finest of variable-speed transmissions. Look to Lewellen!

LEWELLEN MANUFACTURING CO.
COLUMBUS, INDIANA



Stearns
AIR DUCT MAGNET



If you are bothered with tramp iron or metallic refuse in air blown material such as cotton, wool, shoddy, etc., investigate the merits of this thoroughly tried Stearns Air Duct Magnet. An efficient strong, automatic piece of magnetic equipment designed by a pioneer magnetic engineering firm. Write for details.

IF IT'S MAGNETIC WE MAKE IT
PULLEYS · BRAKES
DRUMS · CLUTCHES
SEPARATORS · FILTERS
ORE CONCENTRATORS
SEPARATION OR LIFTING MAGNETS
Stearns MAGNETIC MANUFACTURING CO.
646 So. 28 St. Milwaukee 4, Wis.

Laboratory, M.I.T. The Textile Research Institute met the following day, with Dean Malcolm E. Campbell, of the N. C. School of Textiles, presiding. Speakers included Giles E. Hopkins, director of the Textile Research Institute, New York; Dr. John C. Whitwell and Dr. Richard H. Wilhelm, members of the engineering faculty, Princeton University; Dr. A. C. Walker, research engineer, Bell Telephone Laboratories; and Dr. Elliott B. Grover, head of Yarn Manufacturing, N. C. State College.

Permission for 54-Loom Plan. The Proximity Mfg. Co., Greensboro, N. C., on May 14 began operating a 54-loom work plan for weavers under authority of the Fourth Regional War Labor Board. The order was issued after a hearing and a study of reports submitted by government technicians following a test period. It stipulates that the weavers should have substantially the same operating conditions that prevailed during the test period. The company sought to introduce the plan in the weave rooms last December, but the weavers caused a work stoppage by refusing to tend their looms.

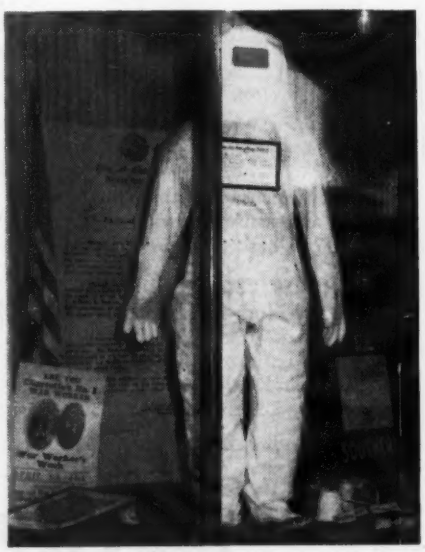
New Shirting Fabric. The Philadelphia Quartermaster Depot is now procuring a finer grade of cotton twill for manufacture in khaki shirts. The fabric is a 5-oz. uniform twill, in place of the 6-oz. cloth formerly used for this purpose. The twill shows prominently on the face of the fabric. The weave is two-up and two-down up to the right. Warp is made from 32s combed single yarn, with 24s combed single in the filling.

Columbia's War Nursery. A combination war nursery-child care center with $7,014 allotted by the Federal Works Agency, has been established by Columbia Mills, Columbia, S. C., in an effort to enable mothers of young children either to accept or to continue work on Army duck contracts.

Work to Music. Rocky Mount Mills, Rocky Mount, N. C., have installed a sound system for providing music to their employees while they work. The system, made by Stromberg-Carlson, consists of two 72-in. racks, two automatic record players, a microphone, and 62 speakers.

British Worker Studies Southern Mills. Margaret Jennings, hosiery mill worker of Nottingham, Eng., recently made a two-day study of Southern textile living and working conditions at the Riverside & Dan River Cotton Mills, Danville, Va. She is one of four women representing the British Trade Union Council now investigating key American industries.

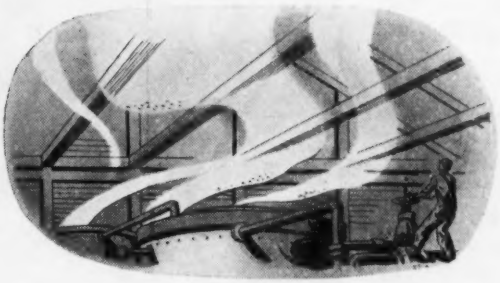
Production and Safety Awards. Frank Ix & Sons, Inc., Charlottesville, Va., recently awarded a plaque by Liberty Mutual Insurance Co. for their outstanding safety record, have completed their millionth man-hour without a lost-time accident. The company also recently was awarded a fourth Army-Navy "E". Other companies which have recently received the "E" award are Cramerton Mills, Cramerton, N. C., fifth award; Firestone Tire & Rubber Co. textile plant, Bennettsville, S. C.; Wexler Knitting Mills, Inc., Philadelphia, Pa.; Russell Mfg. Co., Middletown, Conn., fourth award; Acme Cotton Products Co., East Killingly, Conn.; American Viscose Corp., Marcus Hook, Pa., fourth award; and Avondale Mills, Sylacauga, Ala., fourth award. Outstanding safety records have been achieved by the following plants: Marshall Field & Co. Towel Mill, Fieldale, Va., which reduced its accident rate; Goodyear Decatur Mill, Decatur, Ala., which won the Slusser Safety Banner for ranking first among Goodyear cotton mills recently; the Lewistown, Pa., plant of American Viscose Corp., which has been approved for the National Security Award by the National Office of Civilian Defense.



Charlotte "War-Worker Week" featured exhibits—Asbestos firefighting suit, the fabric for which was made by Southern Asbestos Co., was one of many interesting textile exhibits displayed for the public. These displays were effective means of stimulating both public and employee interest in the vital textile production of the Charlotte area.

ALL STEAMED UP

But not Going to Go



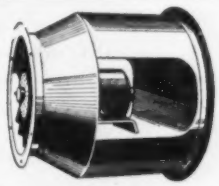
Steam and chemical-laden vapors give ceiling and roof structures of wet process plants an awful beating. Ordinary lumber decays and other materials often go to pieces in a hurry. Wolmanized Lumber*, wood that's impregnated with Wolman Salts* preservative, is highly resistant to this attack. Its use adds years of service life here.

PRESSURE TREATMENT does the trick

Driving the preservative deep into the wood, under great pressure in steel retorts, is what does the trick. Protection is there for keeps. The excellent performance of hundreds of millions of feet of lumber so treated testifies to the worth of Wolmanized Lumber.

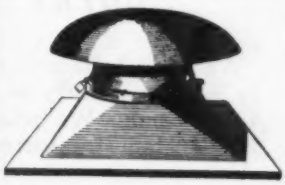
1672 McCORMICK BUILDING, CHICAGO 4, ILLINOIS

4 ANSWERS TO VENTILATING PROBLEMS



1 HEAT AND VAPOR EXHAUST SYSTEMS

DeBothezat Bifurcators *install right in the duct.* For handling corrosive or high temperature fumes and gases. Motor isolated from fumes in chamber open at both ends. Sizes 18 in. to 4 ft.

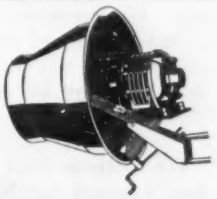


2 ROOF VENTILATORS

Assure positive ventilation *regardless* of temperature, humidity and wind velocity. Hinged top gives easy access to motor, fan and shutter. Light-proof; ready for blackout. Sizes: 21", 27", 36".

3 GENERAL EXHAUST SYSTEMS

DeBothezat offers a complete series of volume and pressure, axial-flow fans. Non-overloading power characteristic. Guaranteed performance ratings based on wind tunnel tests. Direct drives. Sizes from 18 in. through 10 ft.



4 FOR BLOWING LINT

"HY-V" Air Jet combines high-efficiency, axial-flow fan with conversion nozzle for blowing a column of air. Arranged for column or floor mounting. "Air Jet" can be pointed in any direction.

Literature on all DeBothezat Ventilating Equipment is available on request.

De Bothezat

FANS DIVISION

American Machine and Metals, Inc.
East Moline, Illinois

"We'll Help Your Plant Succeed in ALABAMA"

—Governor Chauncey Sparks

"We don't believe in merely inviting industry to come to Alabama. We believe in helping industry succeed in Alabama.

"Executives of Alabama industries will tell you that close and cordial cooperation by state and local government and citizens has been an important factor in the growth of their plants.

"When you come to Alabama you become one of us. We consider it our responsibility and privilege to contribute to your firm's development in every way we can.

"We believe that Alabama has a great future because Alabama has the resources on which a great future can be built. Come to Alabama —and share them with us!"

Special confidential studies will be made for industries upon request.

Write Dept. T,

ALABAMA STATE CHAMBER OF COMMERCE,

Montgomery 1, Alabama

ALABAMA

STATE PLANNING BOARD

Montgomery 5, Alabama

and L-274 which we think should be made to remove the unfair and discriminatory conditions presently existing. Specifically, we refer to that condition in the allocation order which prohibits 45-gage, the most predominant machine gage-wise in the industry, from knitting 50-den. rayon while manufacturers with 51 and finer gage machines are permitted the use of this yarn."

Pushing Top Production. Col. James Andrews of the Bureau of Public Relations, Washington, D. C., is addressing men and women workers in wool combing mills in the New England area to assist in the present campaign to boost production of wool top by 30%. He heads the speakers branch of the ASF Wool Top Special Project Team in Boston.

Testimonial to Col. Jones. "Cotton mills in this country have delivered to us an astounding total of about 3,000,000,000 sq. yd. of cloth," stated Col. Thomas W. Jones, QMC, at a banquet given in his honor by the textile, garment, and allied trades at the Waldorf-Astoria Hotel, New York, on May 16. Col. Jones continued, "This figure does not include duck or webbing as I refer only to the cotton cloth purchased by the Philadelphia Depot which has been used primarily for clothing the Army. Woolen and worsted mills have been through the trials and tribulations of changes in specification requirements, cut-backs, and speed-ups. These mills have given the Army nearly 475,000,000 linear yards of life-saving cloth and they have given many millions more to our allied armies under war-aid agreements."

Army-Navy Purchasing Office. The War and Navy Departments have established at 111 East 16th St., New York, an Army-Navy Purchasing Office. The office will purchase textiles, certain items of clothing, and other items to be designated later. Col. Thomas W. Jones is the commanding officer for the Army Quartermaster Corps, and Comdr. Marshall W. Tuthill the commanding officer for the Navy Bureau of Supplies & Accounts.

Textile Engineers Meet. Textile Engineers' Objective Committee met at Greenville, S. C., on May 2. E. L. McCormack, Southern vice chairman of the Textile Division, ASME, opened the meeting. Illumination problems in textile mills were covered by Roy Palmer, topic chairman, member IES; Paul Tysinger, Duke Power Co., E. L. Scruggs, chief engineer, Springs Cotton Mills. Air-conditioning problems were discussed by R. O. McGary, topic chairman, Buensodd-Stacey, Inc. For building construction problems, George Ross, Daniel Construction Co., was topic chairman. Improved textile machinery and future needs were discussed under the direction of John A. McPherson, John A. McPherson & Co.

FOR A SON AT PEARL HARBOR—Mrs. Elizabeth Murphy, 144 Sargeant St., Holyoke, says that every pound of wool she processes at this wool combing machine will hasten the most important day in her life—the day her only son comes home from the Pacific. He is Thomas F. Murphy, 28, now stationed at Pearl Harbor with the Navy. Mrs. Murphy, who has had more than 45 years wool combing experience, processes enough wool each week to produce 76,200 pr of wool socks for the armed forces. Wool battle-clothing of all types is now critically needed for coming battles in China and Japan.

Avondale Tour. The annual tour of the plants of Avondale Mills was held April 30 to May 2. Headquarters were at Sylacauga, Ala. The tour, which was made by some 50 invited guests, covered plants at Pell City, Birmingham, Sycamore, Lafayette, and Alexander City as well as Sylacauga.

Regional Meetings at Raleigh. Regional meetings of the Industrial Fiber Society and the Textile Research Institute were held at N. C. State College, Raleigh, N. C., recently. The Industrial Fiber Society met Apr. 13, with John P. Elting of Charlotte, N. C., its president, presiding. Speakers included: Dr. John C. Whitwell, associate professor of chemical engineering, Princeton University; Lt. Col. S. J. Kennedy, Quartermaster General's Office; Dr. H. Hindman, research assistant in the Slater Memorial

all go hand in hand when hosiery is finished with

DuraBeau

REG. U.S.A. AND CANADA

FINISHES

Because of years of experience, constant research, modern facilities and an eye ever alert to the future—it can be truthfully said that—*DuraBeau* makes *that difference*.

You can *see* and *feel*—finer texture, sheer loveliness, resiliency, softness and alluring dullness—threads smoothly bonded-together, loops regular—In truth, *DuraBeau* imparts the "film of protection" which means lasting beauty plus miles more wear

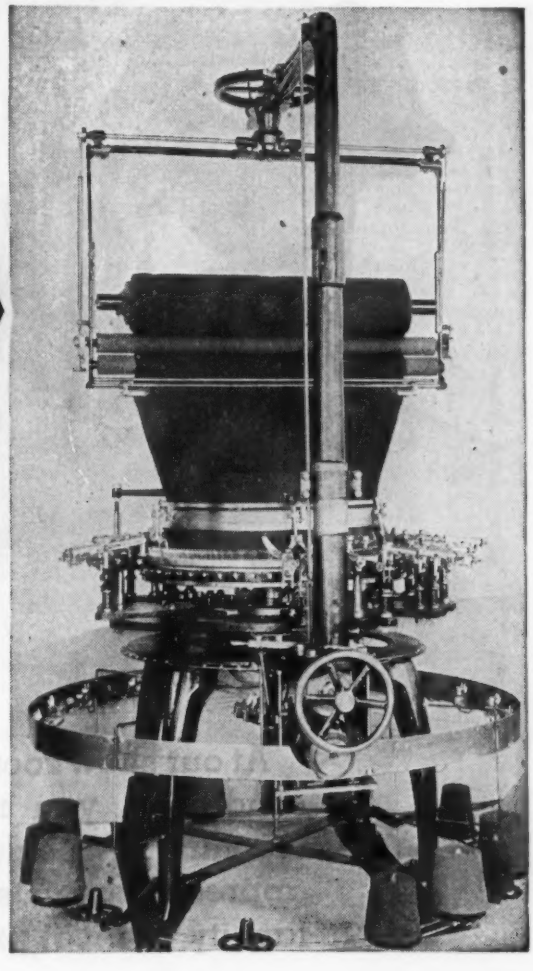
SCHOLLER BROS., INC.

Mfrs. of Textile Soaps, Softeners, Oils, Finishes

Collins & Westmoreland Streets, Phila. 34, Pa.

St. Catharines, Ont., Can.

Single Head Spring NEEDLE Knitting Machine



PRODUCES 100 YARDS PER 8 Hr. DAY

The New S-1 Single Head Spring Needle Machine is especially designed for overcoating materials. At the same time, *any* fabric can be knit on it that is knit on the older type spring needle table!

Production is approximately 100 yards per 8 hour day, using 6 feeds.

Features: Electrical driven by V belt simplified motor drive . . . electrical yarnstop motion . . . and needle stop motion.

Install one of these machines today, and in a few hours after reaching the mill it will be ready for operation!

For details write us direct.

TOMPKINS BROS. CO., INC.

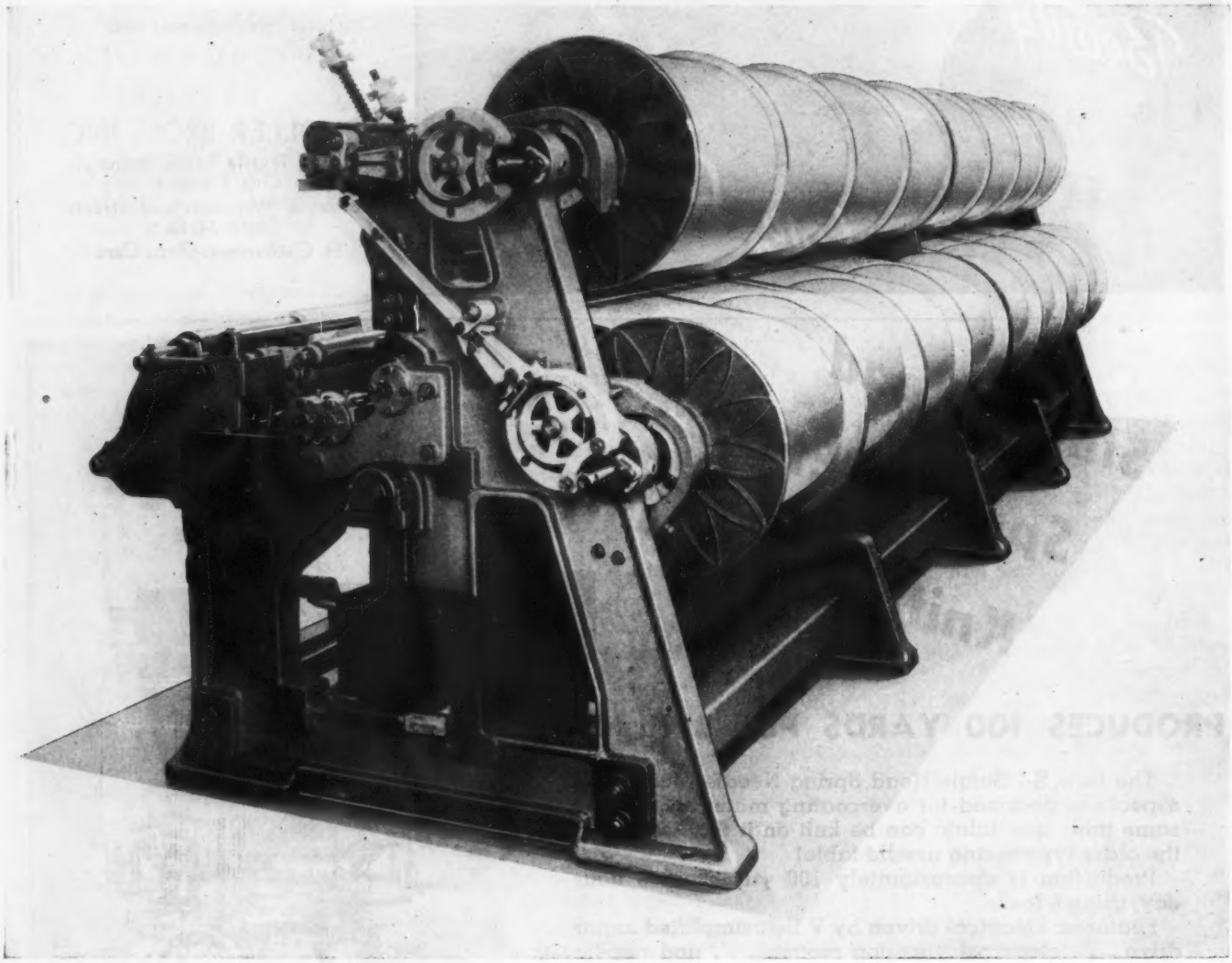
ONEIDA ST. SYRACUSE, N. Y.

Now you can see it . . .

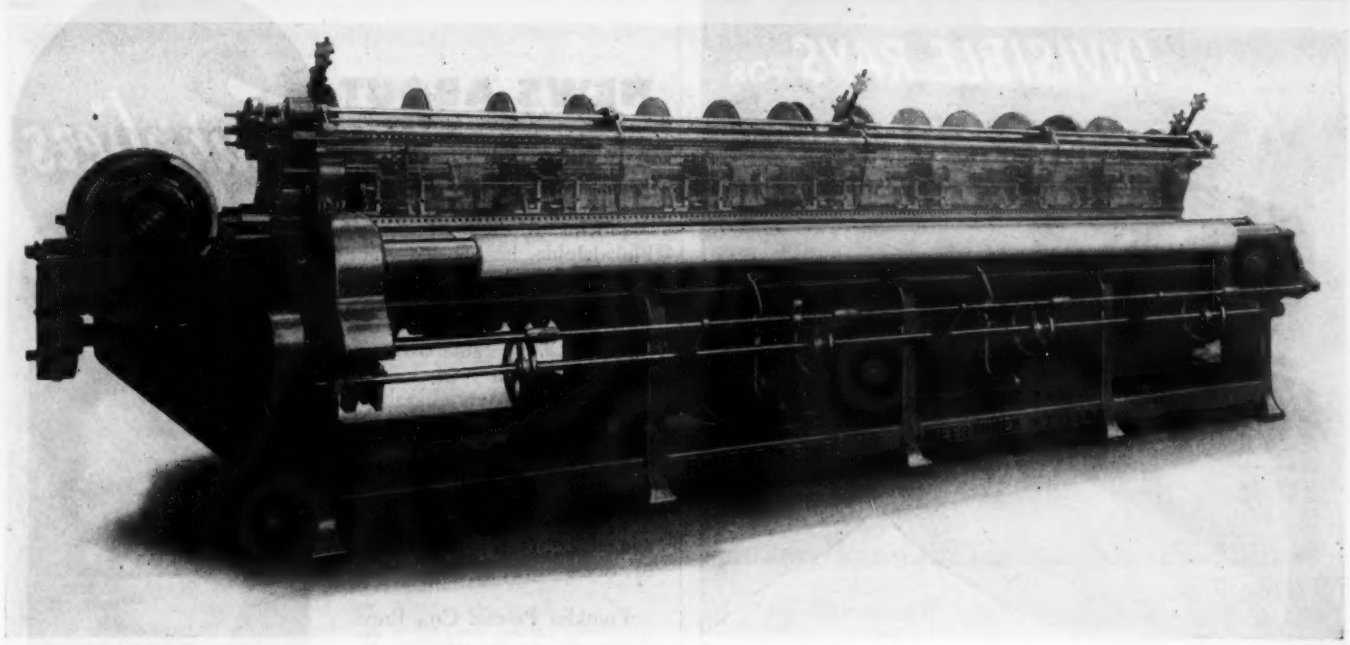
The New REINER *High Speed*

TRICOT MACHINE

168 Inch Working Width
Using 21 Inch Flange Diameter Beams



At our show rooms, under actual mill operating conditions, you may now see this new tricot machine by special appointment, and so gain an appreciation of its contribution to the quality and facility of tricot production.



This new American-made Robert Reiner Tricot Machine conforms in every respect to the high standards of design, construction and craftsmanship you have come to expect from all equipment produced by Robert Reiner, Inc.

This machine takes 21 inch flange diameter beams; also the conventional 13¾ inch flange diameter beams.

In addition we offer warping equipment to take 21 inch flange diameter beams in all commercial widths.

OTHER REINER MACHINES INCLUDE:

FOR WARP KNITTING

- High Speed Tricot Knitting Machines
- High Speed Kay Looms
- High Speed Raschel Machines

FOR HOSIERY KNITTING

- Automatic Heelers for Hosiery Machines
- Gauge conversion and reconditioning of full fashioned hosiery machines

FOR WARPING

- High Speed Warping Machines (full width and sectional)
- Magazine Creels
- Jack Creels
- Thread Tensions (counterbalanced and disc)
- Thread Stop Motions

FOR EMBROIDERING

- Automatic Embroidery Machines (10 & 15 yard lengths)
- Automatic Bobbin Winding Machines (for embroidery and quilting machines)
- Pattern Card Punching Machines
- Repeating Machines

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WEEHAWKEN, NEW JERSEY

Ten minutes from Times Square, New York City via Lincoln Tunnel. Take bus No. 61 or 67 at Public Service Bus Terminal 41st St. between 7th and 8th Aves. Get off at Pleasant Ave., Weehawken, N. J.

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INVISIBLE RAYS FOR FASTER DRYING

This is a Wabash-Birdseye Infra-Red Heat Lamp. Over 80% of the energy it gives off is deep-penetrating invisible, drying rays of Infra-Red radiant heat!

Infra-Red radiant heat—"Invisible Light"—is no longer a laboratory curiosity. Wabash-Birdseye Infra-Red Heat Lamps can put these thirsty, invisible rays to work for you, to speed up Sanforizing and other finishing operations that involve the drying of fabrics. Forward-looking textile engineers who have installed Wabash-Birdseye Infra-Red Heat Lamps report savings of 20% to 100% in drying time!

WABASH-BIRDSEYE INFRA-RED HEAT LAMPS

are standard for most Infra-Red tunnels, ovens, and other production line installations. In adapting your equipment to achieve the really dramatic results possible with Infra-Red, remember that Infra-Red heating is a science; and, *for maximum efficiency, Wabash-Birdseye Lamps should be used with scientifically engineered equipment.* We will gladly furnish names of manufacturers of such equipment.

Wabash Appliance Corporation

345 Carroll Street, Brooklyn 31, N. Y.

WABASH-BIRDSEYE

First in INFRA-RED

NEWS ABOUT Suppliers

Proctor & Schwartz, Inc., Philadelphia, has elected John H. Senior vice president in charge of textile machinery sales. Many years with the company, he became assistant sales manager in 1921 and for the last several years has been sales manager. George W. O'Keefe, for the last two years sales manager of the Dryer Division of Proctor & Schwartz, Inc., has been named vice-president in charge of dryer division sales.

Franklin Process Co., Providence, R. I., has elected W. Allen Traver as president, succeeding Eugene S. Graves, who now becomes chairman of the board. Walter W. Wolfe, manager of the Philadelphia plant, and C. Ralph Ewing, general manager of the Chattanooga plant were named vice-presidents.

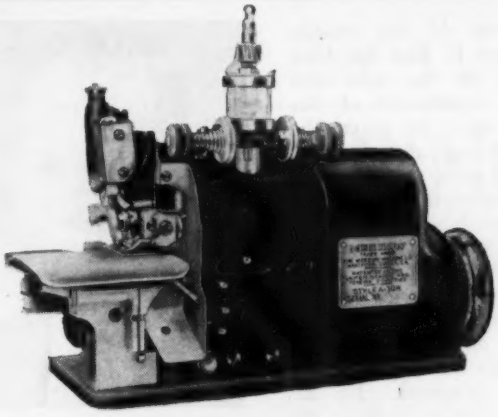
Scott & Williams, New York, will award War Bond prizes totaling $5,000 (maturity value) in a contest designed to select a name for a new post-war nylon stocking, tentatively called, "The Stocking of the Future," which is to be manufactured exclusively on Scott & Williams machines. For the most appropriate name, a $1,000 War Bond will be awarded. A 100-word letter describing the new stocking must accompany the name suggested. Second and third prizes, respectively, will be $500 and $300 in War Bonds, while there will be 72 additional awards of $100, $50, and $25 bonds. The winners will be selected by experienced judges and a group of stylists on the basis of aptness of thought, sincerity, interest, and originality.

WALLACE TAYLOR, who has joined the organization of H. W. Butterworth & Sons, Philadelphia, as sales engineer. For 22 years, he was with Textile Finishing Machinery Co., Providence, R. I. (now a branch of Butterworth) 10 years as sales engineer and 12 years as sales manager. For three years he was associated with the late Homer Loring, establishing bleaching, printing, and finishing plants for United Merchants & Mfrs. Management Corp. Lately he has been general manager of Marshall & Williams Mfg. Co. He will make his headquarters at the Butterworth branch plant in Providence.

C. E. BAILEY, who has been added to the sales staff of Atlantic Chemical Co., Centredale, R. I.

Draper Corp., Hopedale, Mass.—Charles H. Warren has retired from active duties with the Draper Corp. after serving continously since 1899. Most of this time was spent in the South, working out of the Atlanta office. Mr. Warren erected and started up some of the first Northrop automatic looms installed in the South. He is returning to his old home at Gardiner, Me.

Onyx Oil & Chemical Co., Jersey City, N. J., has added L. Max McDaniel to the technical and sales force of the Chicago office. He has had nearly 15 years experience in all types of dyeing and finishing, and will cover the general



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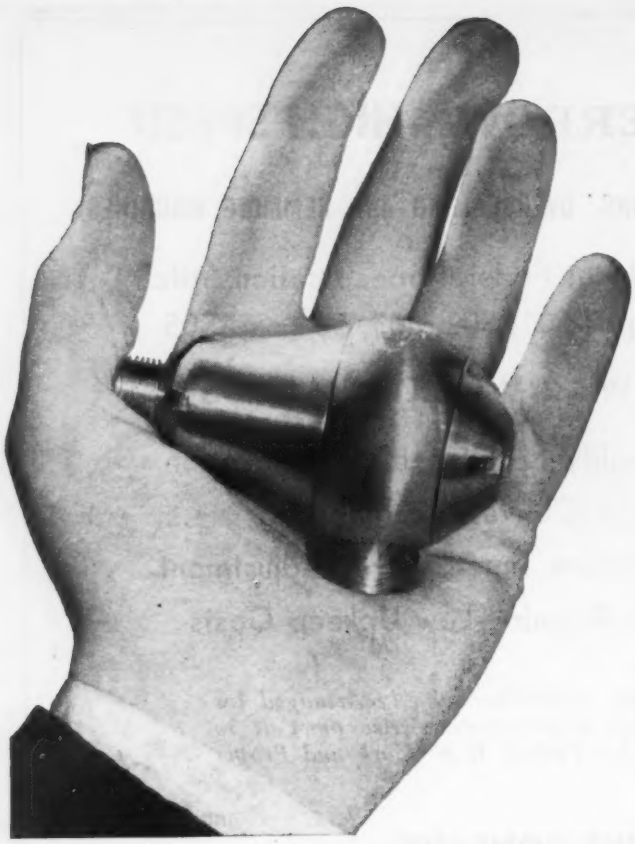

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"leaks" *in one place*; where vapor is made and pushed out. Air pumped in comes out where it is supposed to. The TURBOMATIC (the atomizer with the diaphragm) is efficient . . . . Stays so.

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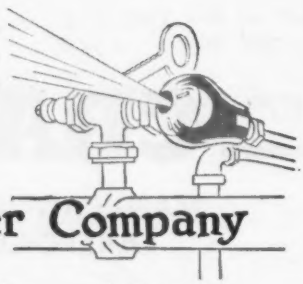

Parks-Cramer Company

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

textile field of the Middle West. Carl E. Bick has been appointed to the sales and technical department of the Chicago office to cover the hosiery dyeing and finishing trade. For more than 20 years he was superintendent of dyeing and finishing for Real Silk Hosiery Co. Melvin P. Rainville has joined the sales and technical service of the Providence, R. I., office, and will call on the textile and allied trades throughout northern New England. He has been overseer of finishing for a number of New England mills during the last 15 years.

Apex Chemical Co., New York, has appointed L. Light & Co. Ltd., Old Bowery Laboratories, Wraysbury, Bucks, England, to act as agents in the United Kingdom for such Apex products as lactic acid, thioglycollic acid, the salts of those acids, and such other organic chemicals as may be required.

Oscar Heineman Corp., Chicago, Ill., has engaged Pen Wilson, of Charlotte, N. C., to represent it in the Carolinas and Virginia territory to succeed Nettleton P. Murphy, resigned. Mr. Wilson represented the R. K. Laros Co. for many years previous to its liquidation. Recently he has represented the Duffy Silk Co.

Dayton Rubber Mfg. Co., Waynesville, N. C., Thoroughbred Division, has been given the "Quality Control Rating," the highest production award granted by the Army Air Forces, Air Technical Service Command.

Virginia Smelting Co., West Norfolk, Va., has added J. Bracken Johnson to its industrial sales staff. He was research chemist for New Bedford Rayon Co. and will direct his attention to technical sales and development work among the textile mills of the South.

DAVID E. ACKER, chemical engineer, has recently joined the staff of Arthur D. Little, Inc., Cambridge, Mass., industrial research organization. Mr. Acker was previously associated with the B. B. Chemical Co.

Stein, Hall & Co., Inc., New York, has appointed Robert Rau as assistant treasurer, J. M. Horine as auditor, and Frank R. Bauer as manager of the accounting department. A. M. Doremus, who joined the company in 1926 and has been office manager since 1931, has resigned.

Union Special Machine Co., Chicago, Ill., has elected Richard Mackey as vice president and assistant manager. G. C. Kopplin, formerly assistant works manager, is now works manager.

Gastonia Roller, Flyer & Spindle Co., Gastonia, N. C., has affiliated with Medley Mfg.

At recent magnesium conference in New York (left to right) Edward S. Christiansen, president, Magnesium Co. of America, Inc., and president of The Magnesium Association; Edward W. Rouse, assistant to the vice president in charge of manufacturing, Revere Copper & Brass, Inc., and chairman of the magnesium development committee of The Magnesium Association; Ralph J. Mowry, sales manager, White Metal Rolling & Stamping Corp., Brooklyn, N. Y.; T. W. Atkins, executive vice-president of The Magnesium Association. It was emphasized that peace time uses of magnesium will influence the national economy and the standard of living.

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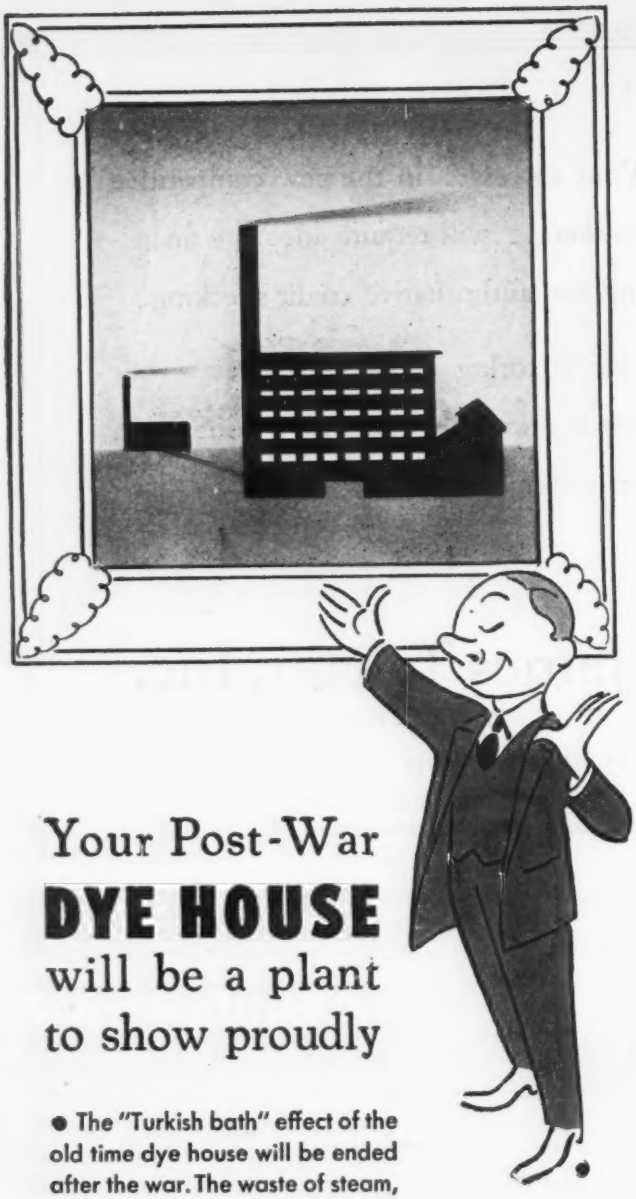

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● The "Turkish bath" effect of the old time dye house will be ended after the war. The waste of steam, water and materials, the turnover in manpower due to unpleasant working conditions in dyeing plants will also be a fortunate war casualty.

The new S. Blickman, Inc. line of stainless steel equipment for the modern dye house will give you a plant you'll be proud to show, happy to work in, a plant with machinery that cuts costs and speeds production on every dyeing operation while turning out a better job.

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Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks

Co., Columbus, Ga. Both concerns will expand their operations to include additional services. The Gastonia Roller, Flyer & Spindle Co. has specialized in general mill repairs, and Medley Mfg. Co. has specialized in overhauling metallic drawing, using the Medley System. C. E. Honeycutt, president of the Gastonia company, states that it will in the future use the Medley System and will erect a new building adjoining its present building as soon as priorities are available.

James W. Cox, for the last 11 years associated with Wm. Iselin & Co. and Iselin-Jefferson Co., New York, in general charge of technical and engineering matters and also as president or vice-president and director of certain mills associated with these firms, resigned May 15 to return to his former practice of consulting textile engineer which he left in 1928 to become president of the McCampbell & Co. mills, Sibley Mfg. Co. and Enterprise Mfg. Co., Augusta, Ga. His office will be at 320 Broadway, New York 7, N. Y.

E. I. du Pont de Nemours & Co., Wilmington, Del.—An honorary doctor of laws degree has been conferred by Syracuse University on Howard J. White, assistant manager of the Du Pont Rayon Department.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has appointed J. C. Schaefer, field engineer of the Pittsburgh district office, to be branch office manager at Youngstown, Ohio, succeeding E. H. Legler, who has been transferred to the electrical department at Milwaukee. Allis-Chalmers has appointed Charles F. Codrington as assistant to the manager and A. E. Caudle as sales manager of its blower and compressor department. Allis-Chalmers in its regular broadcast of the Boston "Pops" orchestra on May 19 paid tribute to the textile industry.

Hercules Powder Co., Wilmington, Del., has appointed Dr. Robert W. Cairns to be assistant director of research, and Dr. Raymond F. Schultz, to be director of the company's experiment station. Dr. Emil Ott is director of research. Hercules Powder Co. has started up the first complete unit for the production of cellulose-derivative laminate sheets at its Parlin, N. J., plant.

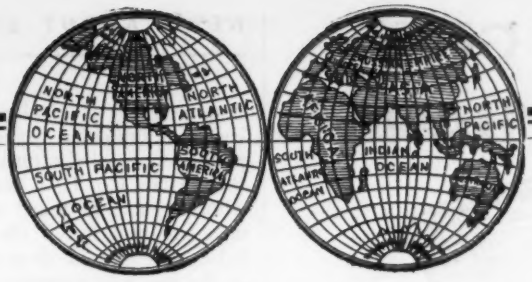
R. A. PLUMB, previously president of Truscon Laboratories, Detroit, Mich., who is now president of the Truscon Division of Devoe & Raynolds Co., as reported last month.

Westinghouse Electric Corp., East Pittsburgh, Pa., has elected Ralph C. Stuart as vice president in charge of the lamp and lighting divisions. With the company since 1918, he has been manager of manufacturing at the Bloomfield, N. J., headquarters plant of the lamp division since 1941.

Pittsburgh Plate Glass Co., Pittsburgh, Pa., has appointed W. B. Sippey as sales manager of the Columbia Cement Division at Zanesville, Ohio. He has been with that division for the last 19 years in the sales department, after 9 previous years at the company's Pitts-

Ceiling Raised on Machine Parts Made of Hickory

Manufacturers' maximum prices for loom picker sticks made of hickory were increased by 5c per stick, by OPA on May 8. The action was taken to compensate manufacturers for the increase granted on Mar. 12 in the ceiling price of hickory picker stick blanks. This increase was from $200 to $250 a thousand board feet, or 25%. The price of these blanks constitutes approximately 50% of hickory picker stick manufacturers' total costs of production, says OPA. Also announced on May 8 were increases of 18% in manufacturers' ceiling prices for other textile machinery parts made of hickory, such as jack sticks, sweep sticks, binders, crank or pitman arms, skewers, parallel blocks, and dobby sheaves.



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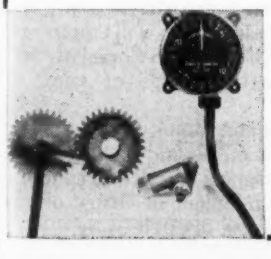

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CHICAGO, ILLINOIS

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NEWS ABOUT SUPPLIERS

burgh office. J. H. Henshaw has been appointed general export manager of the Pittsburgh Plate Glass Co. I. G. Stewart, who has had 22 years' experience in the heavy chemical field, was appointed manager of the new San Francisco office of the Columbia Chemical Division.

Stewart Machine Co., Inc., Gasonia, N. C., has changed its name to the Kempton Corp. The corporation, of which Edward S. Kempton is president, will continue to manufacture and sell the same products and service, but on an expanded basis.

Monsanto Chemical Co., St. Louis, Mo., has elected Dr. Charles Allen Thomas, director of Monsanto's Central Research Laboratories at Dayton, Ohio, as a vice president of the company. He is succeeded as Central Research Director by Dr. Carroll A. Hochwalt, formerly associate director of the Central Research organization.

Link-Belt Co., Chicago, has appointed Clarence H. Schuettenberg as sales manager of the stoker division.

General Electric Lamp Department, Nela Park, Cleveland, Ohio, has appointed W. H. Robinson, Jr., as sales manager of electric discharge lamps including fluorescent but excepting germicidal and glow types. E. D. Stryker has been named sales manager of lighting equipment promotion. O. H. Young will continue as sales manager of photolamp activities and take on certain responsibilities in the eastern sales division of the lamp department. General Electric has established its air conditioning department as one of the six major operating departments of the company. The new department will have its headquarters at Bloomfield, N. J., and George R. Prout has been designated as general manager. General Electric has named J. J. Huether as assistant manager of the Industrial Divisions, and W. A. Wirene as manager of the Industrial Divisions.

United States Testing Co., Hoboken, N. J., has elected E. J. Stehli, chairman of the board; D. E. Douty, president and chairman of executive committee; A. L. Brassell, vice president and general manager; S. B. Walker, secretary; E. C. Brown, treasurer.

WILLIAM S. RICHARDSON, with B. F. Goodrich since 1926, who is president of the newly-formed B. F. Goodrich Chemical Co., Cleveland, as reported last month.

Danvers Fluorescent Lamp Plant of Sylvania Electric Products, Inc., was the winner of the grand trophy awarded by the Massachusetts Safety Council for the year 1944.

Jones Dabney Division of Devoe & Raynolds Co. of Louisville, Ky., will move their Automotive Division to Detroit, utilizing property on the Grand Trunk Railroad adjacent to the Truscon Laboratories, which have been acquired by Devoe & Raynolds.

Wickwire Spencer Steel Co., New York, has appointed A. C. Beckaert as comptroller. Mr. Beckaert has been with Wickwire Spencer since 1943 as assistant treasurer. Wickwire Spencer Metallurgical Corp., subsidiary of the Wickwire Spencer Steel Co., has appointed Armon N. French as assistant sales manager.

Foster D. Snell, Inc., Brooklyn, N. Y., has appointed David Gordon, recently chief engineer for Interchemical Corp. to its staff as director of engineering.

American Resinous Chemicals Corp., Boston, Mass.—M. A. Kimmel now heads the adhesives department of this company. He will direct research and development and have full charge of sales.

Bound Brook Oil-Less Bearing Co., Bound Brook N. J., has named W. R. Toeplitz as vice president in charge of engineering research.

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THESE NEW DIAGRAPH-BRADLEY FOUNTAIN STENCIL BRUSHES ... each represent major advancements in stencil brush design and efficiency ... featuring: STURDY ALUMINUM CONSTRUCTION • LIGHT WEIGHT • LARGE FENDER GUARD to prevent ink on bristles getting on table, clothing, etc. • LARGE INK CAPACITY • ALWAYS READY FOR USE. THE PENACTION FEED* operates like a fountain pen • THE SIDE BUTTON STREAMLINER* is controlled by a diaphragm valve • CAN'T LEAK.

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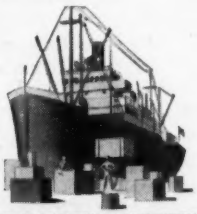

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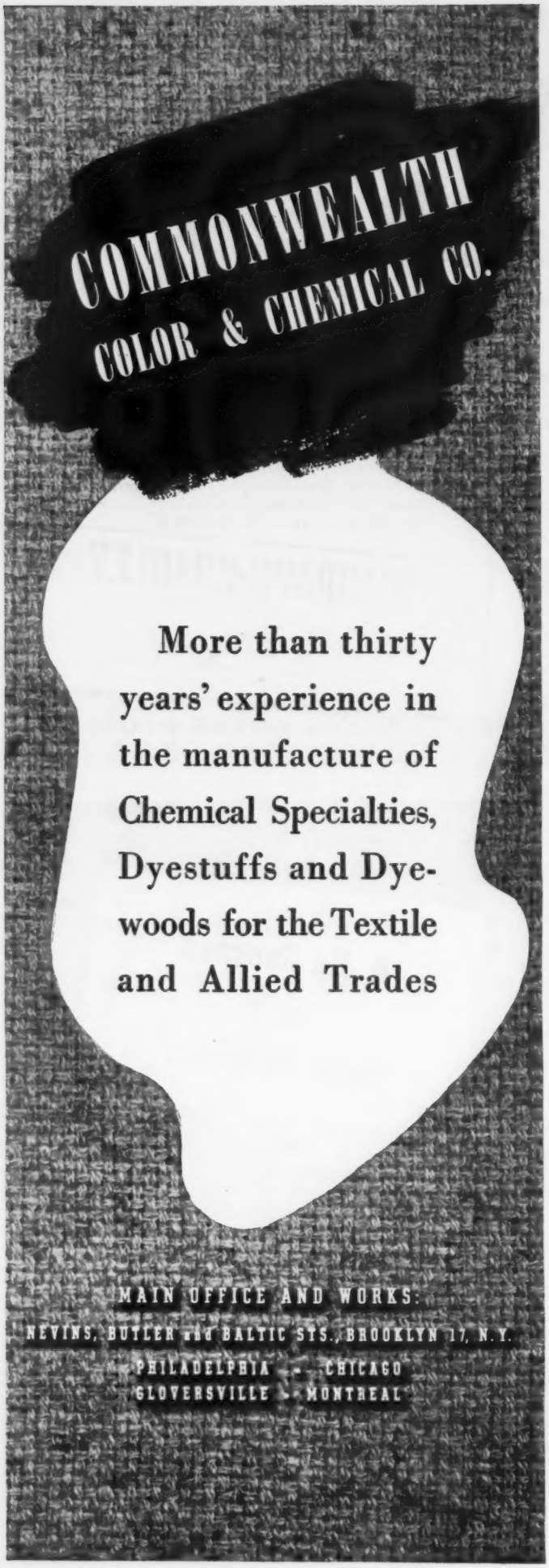
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NEWS ABOUT Mills

COTTON MILL NEWS

Aldora Mills, Barnesville, Ga., branch of General Tire & Rubber Co., Akron, Ohio, completed an addition to the mills May 8.

Ann Mfg. Co., Inc., Granite Quarry, N. C., was destroyed by fire April 27, with a loss of approximately $25,000. J. H. Lyerly, president, stated that he hoped to rebuild but that it would be hard to replace the machinery at present.

Avondale Mills, Sylacauga, Ala., have recently completed installation of an improved coal-handling system, designed by Rust Engineering Co., Birmingham, Ala.

Dominion Textile Co. Ltd., Montreal, Quebec, is erecting a new boiler house.

Drayton Mills, Spartanburg, S. C., is planning postwar expansion, with machinery installation for increased capacity.

Elton Fabrics, Providence, R. I., has made an offer of $60 a share for all stock of Richard Borden Mfg. Co.

Goodnight Sleepwear, division of Pacific Mills, has selected Hickory, N. C., as a site for a new plant that will eventually employ 600 workers.

Hampton Mills, Inc., Troutman, N. C., has been incorporated to deal in goods and fabrics of all kinds, with authorized capital stock of $1,000,000, part of which has been subscribed by Edward Kale, Lincolnton, N. C., and Hunter M. Jones and Elizabeth H. Harris, of Charlotte, N. C.

Howard-Arthur Mills, Inc., Fall River, Mass., have been sold to Jacob Ziskind, local textile machinery dealer.

Joanna Textile Mills, Goldville, S. C., plan expansion and improvements, including additional buildings and equipment to cost about $500,000. Application has been made for a priority rating.

Lane Cotton Mills, New Orleans, La., formerly operated by the late S. Odenheimer, is reported for sale by the estate.

Montreal Cottons, Ltd., Valleyfield, Que., plans one-story addition, reported to cost about $65,000, with equipment.

New Braunfels Textile Mills, Inc., New Braunfels, Tex., are completing erection of one-story addition, 50x180 ft. Installation will include 116 new looms and accessory equipment and will cost over $85,000. Robert & Co., Atlanta, Ga., are the engineers.

Pepperell Mfg. Co., Opelika, Ala., plans construction of an addition at a cost of about $325,000.

Santee Cotton Mill, Bamberg, S. C., will be liquidated by unanimous vote of stockholders. The directors will continue operation of the plant, however, until the liquidation can be effected.

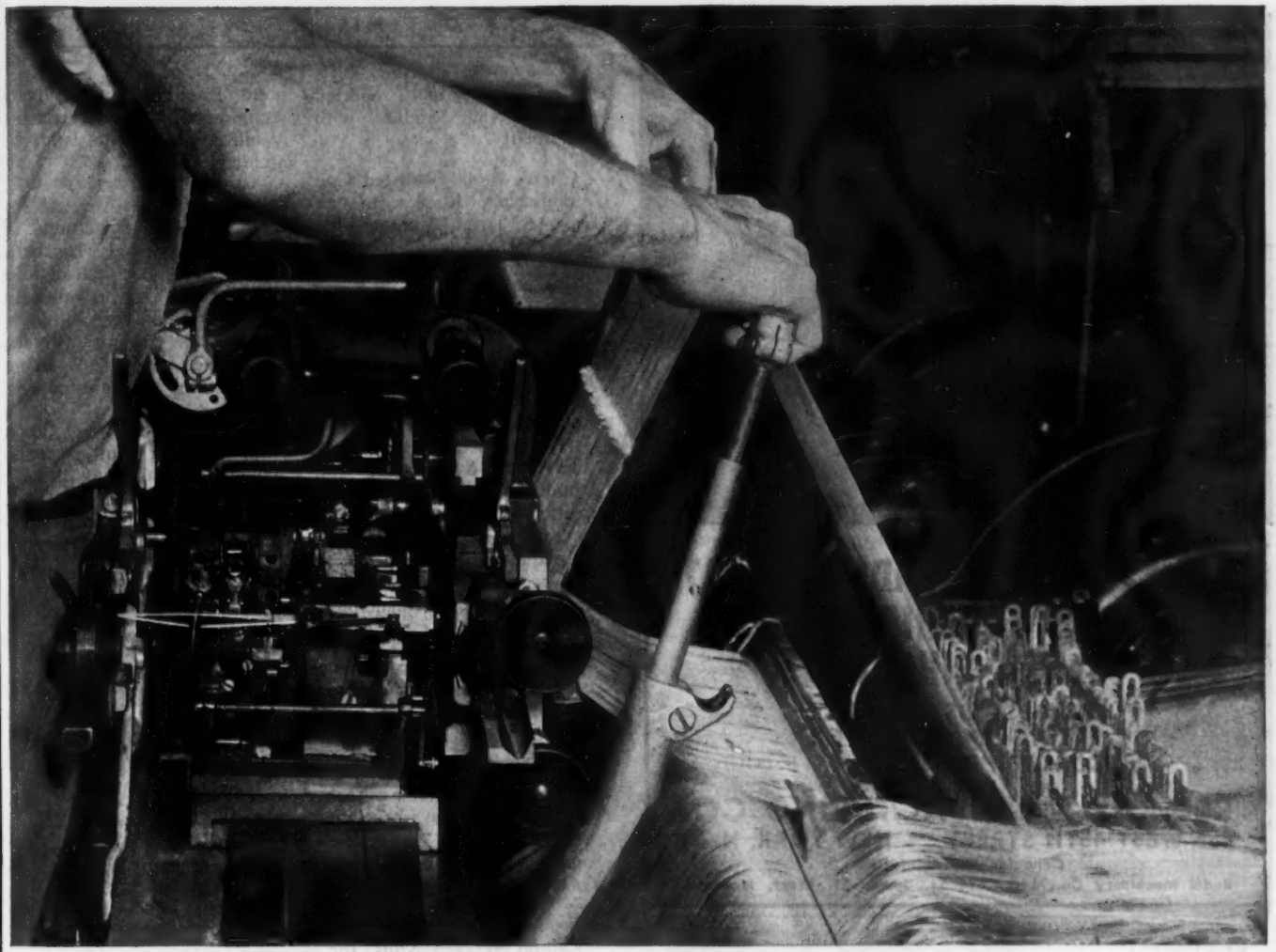
Star Mill, formerly part of the L. E. Harrower & Son knitting plant, Hagaman, N. Y., has been purchased by Hagaman Needlecraft Corp., and is being modernized for production of duck, canvas, and rope for the duration of the war.

Victory Mills, Salisbury, N. C., a new 5,000 spindle cotton yarn mill, has been incorporated with authorized capital of $200,000. Incorporators include George M. and Robert McCanless, and H. N. Fairley, of Salisbury, and Aaron J. Schindel, of New York. The new mill is expected to be in operation within the next three months.

WOOL MILL NEWS

Briggs & Little, York Mills, N. B., have completed a new plant at York Mills and are now installing machinery. Production is expected to begin in late July.

Brinton - Peterboro Carpet Co., Peterboro, Ont., is establishing a new branch spinning



Rayon Warp-Tying, by Portable Machine

RAYON warp can be replenished *at the loom* by using a Barber-Colman Model "LS" Portable Warp Tying Machine. This machine is compactly designed so it will work directly back of the loom in alleys as narrow as 12". It is light and sturdily built and can be easily and quickly moved from one location to another. It is hand-operated and ties-in the warp in sections, each section or load being approximately 15" wide. The knotting mechanism, which includes a "stumbler" to eliminate missing any ends, is normally operated at about 300 knots a minute. Since the machine will handle as fine as 40 denier yarn, all parts are precision made to extremely close standards and fully interchangeable. A good operator can be trained in a short time, requiring principally the ability to be careful and pay attention to significant detail. The picture shows one load being completed, the operator making an inspection of the uniform row of knots before clearing the machine for the next load. Bulletin F-1256-4, which will be sent promptly on request, will describe this machine to you in greater detail.

For Example . . .

From our field records, we cite this experience of a rayon goods manufacturer working 100% on war material:

Yarn Counts	75 to 150 denier rayon
No. of Ends	2500 to 10,000
Knots Tied per Hour	4000 to 8500
Sley	56 to 280

Comparison of loom hours lost per week due to stoppage for replenishment of warp:

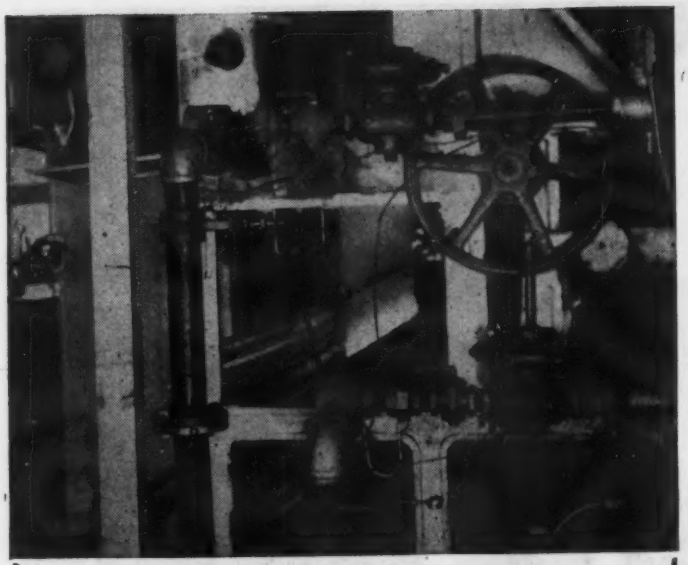
Before installing warp tying machine	325
After installing warp tying machine	50
Loom Hours Saved per Week	275

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND



RED-RAY RADIANT HEAT BURNERS FOR HIGH SPEED, CLEAN SINGEING

CONSULT US ON YOUR DRYING, SINGEING OR CURING PROBLEMS

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CIRCULAR KNITTING MACHINES

Automatic Precision Machines

FIDELITY MACHINE COMPANY

ARMY E NAVY

3908-18 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

mill at Lindsay, Ont., reported to cost about $50,000, with equipment.

Cherry Brook Worsted Co., Woonsocket, R. I., through Hugo A. Jarret, treasurer, has purchased property at Allen and Bernon Sts., for use as a new machine shop.

Cookshire Woolen Mill Ltd., Cookshire, Quebec, recently began operation. The mill has 2 sets of cards, 2 spinning mules, and several looms.

Eavenson & Levering Co., Camden, N. J., has begun erection of a one-story addition, to cost approximately $75,000 with equipment for which contract recently was let to Jack S. Steele Co., Philadelphia, Pa.

Falls Yarn Mills, Woonsocket, R. I., have purchased the former Guerin Mills property, for use in future expansion.

Forest - Pondicherry Mills, Bridgeton, Me., have been purchased by Isaac Zimber and Samuel Goldlust, of New York, renamed Sebago Mills, Inc.

Gibson Woolen Mills, Inc., Tilton, N. H., recently destroyed by fire, will be rebuilt. The new plant will be a one-story 120-ft. brick structure. The first floor of the burned factory is being put into shape to resume operations.

Lewiston, Me. — Needham Brown, Jr., and an associate have purchased three sets of wool cards and are starting a yarn mill.

Newlands & Co., Ltd., Galt, Ont., is making additions to its worsted spinning mill, consisting of new buildings and equipment estimated to cost about $250,000. Drawing, spinning and twisting equipment is on order and installation will begin the latter part of this year.

Paragon Worsted Co., Providence, R. I., has filed plans for a one-story addition and will carry out work at once.

Peerless Mill, Rockville, Conn., has been leased by Simons Goltra Co., Hartford, Conn., manufacturers of flags and awnings.

Portland Woolen Mills, Portland, Ore., have plans for one-story addition, reported to cost about $40,000 with equipment. Priority rating has been secured for immediate erection. Wolff & Phillips, Portland, are architects.

Roniteau Mills, Inc., Ashaway, R. I., manufacturers of woolen piece goods, has been sold to Miles L. Finch of Kew Gardens, N. Y., who will head a newly formed corporation to be known as Ashaway Woolen Mills, Inc. Leverett A. Briggs will continue as superintendent.

Wellington Spinning Corp., Ltd., Toronto, Ont., recently acquired a controlling interest in Monarch Knitting Co., Ltd., Dunnville, Ont., which operates factories in Dunnville, St. Catharine's and St. Thomas, Ont.

RAYON & SILK MILL NEWS

Alliance Textile, Ltd., Montreal, Que., is erecting a modern textile plant at a cost of $68,000.

American Viscose Corp., Wilmington, Del., will carry out expansion in mills at Marcus Hook and Lewiston, Pa.; Parkersburg, W. Va.; and Front Royal, Va., with installation of equipment to provide gross increase of about 46,300,000 lb. of high-tenacity rayon yarn for government manufacture of tire cord. The program will cost about $6,000,000, of which approximately $3,600,000 will be provided by Defense Plant Corp., Washington, D. C.

Belding Corticelli, Ltd., Montreal, Que., is completing construction of a new plant at an approximate cost of $49,000.

Burlington Mills Corp., Greensboro, N. C., recently authorized a postwar expansion and improvement project at its various units, to be carried out over a period of four years, with the installation of additional machinery and facilities. At the same time, a fabric development program will be placed under way. The entire project will cost more than $3,000,000, it is reported.

Celanese Corp. of America, chemical plant, Austin Texas, first unit, is scheduled to be completed around the middle of July, and the second unit about April, 1946, I. W. Keys, Corpus Christie, Texas, local attorney, has announced. The plant will cost several mil-

Laurel RAYON OILS

prevent abrasion
improve twist-set
and stitch, leave yarns soft, workable

Laurel Rayon Oils give your yarns a protective film which prevents abrasion and breakage; increases resiliency; improves twist-setting; effects clearer stitch. Laurel Rayon Oils quickly penetrate fibers, are quickly removed in regular scour. Do not oxidize nor become rancid. Keep yarns soft, pliable. Speed up your production.

Developed, tested by Laurel Laboratory—to meet exacting rayon requirements, Laurel Rayon Oils are processing favorites of leading mills. Take advantage of this Laurel experience and save processing time and money. Send today for trial order.

Laurel Rayon Size Laurel Ruxite Laurel Hydrosol
Laurel Boil-Off Oils Laurel Textile Oils

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Prompt Delivery

ON BOTH STANDARD TYPES

—on **STEELGRIP** Steel Lacing that is applied with a hammer. 11 sizes — convenient boxes or long lengths with wide belts. Have 2-piece hinged rocker pins.

—on **WIREGRIP** Belt Hooks that are applied with any lacing machine and come with extra blue aligning cards (patented) that assure uniform tension on every hook and prevent card-end waste.

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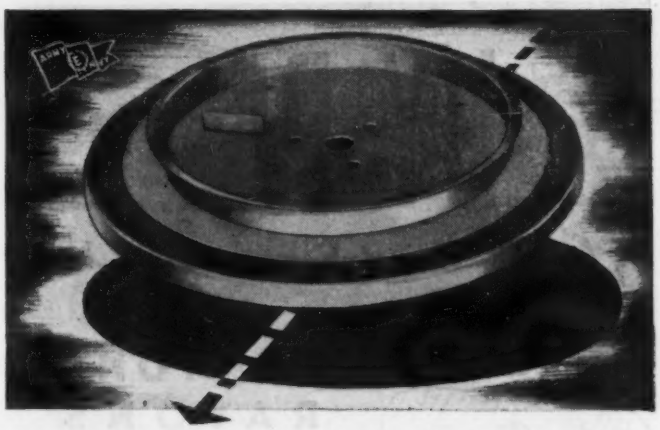


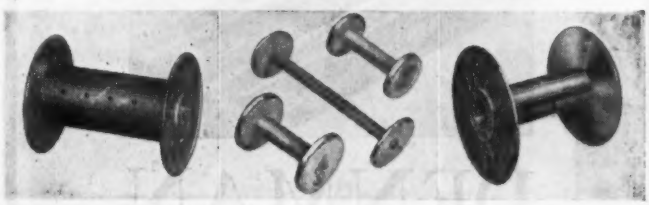
STAMINA THAT SAVES

Chip-proof, split-proof and break-proof Hubbard replacement beam heads make working processes go smoother in all ways. Stronger and longer lasting than other types, these replaceable heads for loom and warp beams cost you less to use.

Balanced veneer plywood construction of Hubbard beam heads assures smooth performance at high speeds. Die formed steel tires protect edges and seal them against moisture. Jagged edges cannot form on tire to injure fabric or operator.

The way these beam heads last and last is typical of the performance of all Hubbard textile mill supplies. Only years of combined shop and field research can produce the kind of solutions Hubbard can offer for your every problem involving spools, beams or bobbins. Profit by this experience now—send for complete details on Hubbard products today.

Other Hubbard Textile Mill Products



Stainless Steel Spools and Bobbins
Very strong and guaranteed non-corroding and stain-proof. Will be available as soon as priority controls permit manufacture.

Jack, Carder and Twister Spools
These warp-proof, break-proof and split-proof spools withstand the terrific strains of even the severest kind of service.

Sectional Warp Beams
Strong, rigid, light weight magnesium alloy. Heads removable and interchangeable. Withstands even acetate yarn pressures.

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COTTONS
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Hy-Pel treated fabrics are water repellent. They also resist spotting, staining and perspiration. The Hy-Pel process does not affect the appearance, texture or porosity of the fabric. Hy-Pel is a one bath water repellent and is applied on the quetch, padder, jig or beck. Efficient-Economical-Durable.

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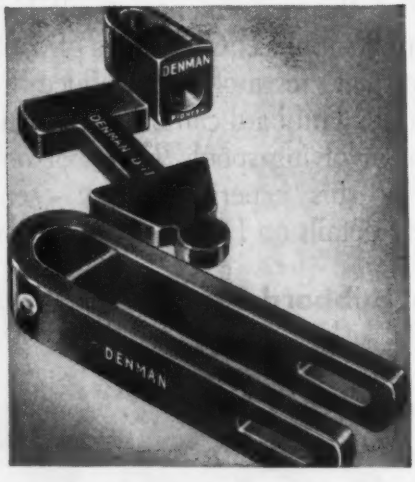

DENMAN

PICKERS LUG STRAPS
HOLD-UPS

Lowest Cost Per Loom Per Year

The **Terrell Machine Co.,** *Inc.*

CHARLOTTE, N. C.

James F. Notman, Needham, Mass. . . . N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J., Penn., N. Y. and N. J.
W. J. Westaway Co., Ltd., Hamilton & Montreal . . Canada
Geo. Thomas & Co., Manchester, Eng. . . European Agent

lion dollars and will manufacture raw materials for rayon and plastics. The company's new weaving mill, at Staunton, Va., has begun operations with 25 looms producing rayon fabrics.

E. I. du Pont de Nemours & Co., Wilmington, Del., has completed a new unit at the company-operated neoprene plant, Louisville, Ky. Expanded facilities will step up production of this high priority synthetic rubber by approximately 26%, to an annual volume of 60,000 tons.

Emerson Mfg. Co., Suncook, N. H., division of Textron, Inc., was damaged recently by fire in a power generator to the extent of several thousand dollars.

Iberville Drapery Mills, Ltd., Iberville, Que., soon will occupy its new 190x21 ft. addition in which additional looms are to be installed. Space is now available for a larger inspection department and 10 extra Draper Model "D" 64-in. looms, giving 84 in all on rayon and silk goods.

Noma Electric Corp., New York, N. Y., has purchased Holyoke Silk Hosiery Co., Holyoke, Mass.

North American Rayon Corp., Elizabethton, Tenn., has contracted with the Defense Plant Corp. for equipment worth $380,000.

Paulis Silk Co., Pawtucket, R. I., has taken out permit for one-story storage building, for which erection contract has been let to Rowley Construction Co., Providence, R. I.

Quality Textiles, Inc., Greenville, S. C., has been granted a South Carolina charter to manufacture and sell cotton and rayon goods, fabrics and garments, with capital stock of $25,000. Officers are George H. Edwards, president and treasurer, and Martha S. Edwards, vice-president and secretary.

Security Mills, Inc., Newton, Mass., have plans for improvements and will begin work soon. Harry Gulesian, Boston, Mass., is architect.

Sunspun Mfg. Co., Asheboro, N. C., is constructing an addition of approximately 5,000 sq. ft. of floor space.

Tubize Rayon Co., Rome, Ga., is arranging for postwar expansion with equipment installation for increased capacity.

Woonsocket Garnetting Co., Woonsocket, R. I., has been organized by A. M. Viana, and will be engaged in rag picking and rayon garnetting.

KNITTING MILL NEWS

Aberle, Inc., Philadelphia, Pa., hosiery manufacturer, has sold its buildings at "A," "B," and Clearfield streets, but will continue to occupy them until new buildings are completed in the company's postwar expansion program.

Alberta Knitting Mills, under the managership of O. V. Radacke, was opened recently at Wilmington, N. C.

American Yarn & Processing Co., Mt. Holly, N. C., recently completed installation of 20 circular knitting machines for manufacture of knit tubing for women's underwear at Whitehall Knitting Mills.

Batesville Co., Batesville, Miss., newly organized hosiery manufacturing concern, will be housed in a one-story building constructed at a cost of $60,000.

Belknap Mills Corp., Laconia, N. H., plans two-story addition, reported to cost about $50,000 with equipment. N. P. Randlett, Laconia, is architect.

Carmichael Hosiery Mill, McDonough, Ga., which was recently destroyed by fire, will be rebuilt.

Cleveland, Tenn.—A new hosiery mill for the manufacture of men's socks on government war contracts will begin operations soon. Postwar plans for the mill, being established by Claude de Barros & Associates, are for reconversion to civilian production as soon as possible. The mill is under direction of C. A. Miller, vice-president of Cherokee Hosiery Co.

Crescent Knitting Co., Statesville, N. C., has been purchased by a new organization, Crescent Knitting Mills, Inc., owners of the Duke Hosiery Corp., Hickory, N. C. Chester H. Roth is president, and T. R. Kramer, vice-president. The plant will be operated under the direction of the Hickory concern.

TOOLING FOR SPEED AND ACCURACY

★ The list of clients for whom Hecker has designed and built tools during the past fourteen years reads like the "blue book of American Industry." We are ready now to help with your retooling problems. Write for our new brochure "Men and Machines."

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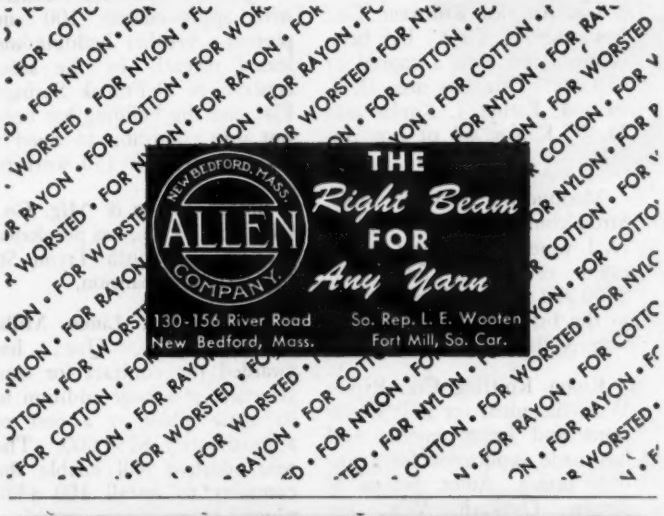
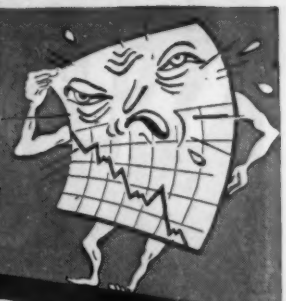
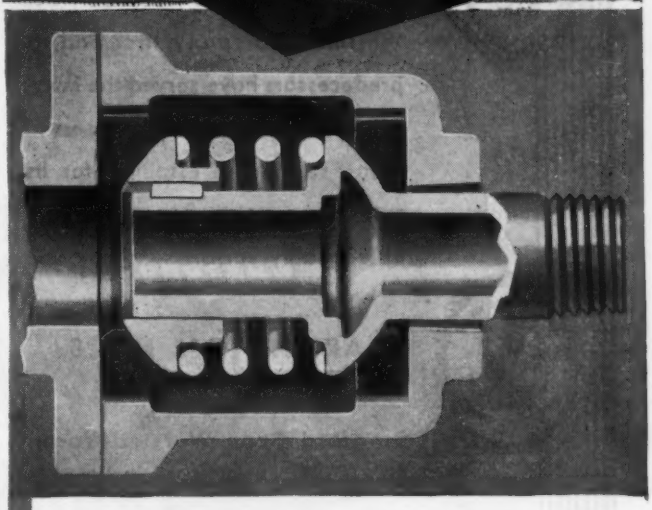


First Aid-
. . . for Ailing Production Schedules



JOHNSON Rotary Pressure JOINTS



• It's true in many cases — the most effective single step you can take to speed up lagging production is to switch over to Johnson Joints.

Their packless, self-oiling, self-adjusting, self-aligning design ends all the troubles of the old style stuffing boxes and steam fits. Precious man-hours can be released for other tasks. Efficiency-boosting methods of syphon drainage can be employed more satisfactorily.

Yet with all these benefits, the Johnson Joint can pay its own way out of savings in maintenance alone. That's the verdict of hundreds of mills, where scores of thousands of Johnson Joints are helping to meet today's unprecedented demand.

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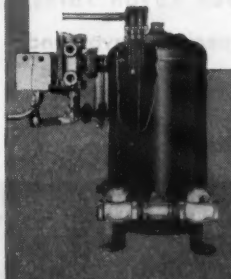

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It's replacing expensive pumps and cumbersome tilting traps . . . draining lines under vacuum as complete as 27 inches of mercury. Electrical method of operation brings greater capacity, absolute dependability, and permits remote control for those hard-to-get-at installations.

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NEWS ABOUT MILLS

Dixie Hosiery Mills, Newport, Tenn., is now owned by Alfred P. Slaner, who has hosiery mill interests in North Carolina. Lee Higgins, production manager, and all operatives, are being retained.

Gault Knitting Mills, Union, S. C., plan rebuilding of portion of mill recently damaged by fire.

Jewel Fabrics Co., Gastonia, N. C., has been organized to manufacture knitted cloth with an ultimate consumption goal of 5,000,000 lb. of cotton yarn annually.

Princeton Knitting Mills, Inc., Waterbury, Conn., have awarded contract to Bartlett-Brainard Co., Hartford, Conn., for alterations and improvements in mill.

Sylvia Mfg. Co., New York, N. Y., makers of foundation garments and corsets, which has been in operation for more than 30 years, has announced plans to move to Johnston, S. C., as soon as a recently-purchased building can be remodeled and fitted for occupation.

Los Angeles Knitwear Co., Los Angeles, Calif., has been incorporated with a capital of $50,000. Directors are: D. J. Belond, Esther J. Kaplar and M. P. Kaplar, all of Los Angeles.

Mammoth Hosiery Mills, Stroudsburg, Pa., and Trenton, N. J. were sold recently by the estate of Morris Polin, for $500,000 and will be known in the future as Nu-Maid Hosiery Mills.

Ripon Knitting Co., Ripon Wis., has plans for mill alterations and improvements and has made application for a priority rating. Auler, Jensen & Brown, Oshkosh, Wis., are architects.

PROCESSING PLANT NEWS

California Hand Prints Co. and **Pacific Textile Co.**, both occupying the same block-long building at Hermosa Beach, Calif., were destroyed by fire May 13, with a loss estimated at $150,000.

Copland Converting & Finishing Co., Burlington, N. C., was recently organized and is operating under an authorized capital stock of $200,000. It was organized by J. R. Copland, Sr., J. R. Copland, Jr., and G. H. Fowler.

Phoenix Dye Works, Chicago, Ill., have work under way on a one-story addition, 25x28 ft., for which contract recently was let to H. W. Todd Construction Co., Chicago.

Quinton Dye Works, Ltd., Winnipeg, Man., plans a one-story mill addition reported to cost about $45,000, with equipment.

Table Rocks Fabrics, Inc., Greenville, S. C., has been granted a South Carolina charter to buy and sell cloth, cloth remnants, and engage in converting and finishing business, under a capital stock of $15,000. Officers are J. McD. Law, president and treasurer; Robert E. Buck, Jr., vice president, and M. C. Patton, secretary.

MISCELLANEOUS MILL NEWS

Alabama Textile Products Co. plant, Laurel Hill, Fla., was put into operation recently, with approximately 100 employees. Another building was leased recently by the same concern at DeFuniak Springs, Fla., and the building has been put into condition to open a plant there with 150 workers.

Bowen Waste & Mfg. Co., Charlotte, N. C., has purchased property on South Tryon St. for postwar expansion.

Caldwell M. Linen Mills, Ltd., Iroquois, Que., has awarded the contract for construction of a large addition to its main plant at a cost of approximately $250,000. The new addition will enable the company to install 100 additional looms, new warping, slashing and dyeing machinery as well as the most modern types of automatic winding machinery.

International Braid Co., Providence, R. I., recently purchased the plant of H. Schindler & Co., Inc., Canton, Mass., which will hereafter be known as The Rain-Beau Products Co., Division of International Braid Co. A. S. Rogers, who has been with the Schindler Co., for 12 years will head the company. Freeman W. Fraim, will be vice president, and George E. Colby, treasurer.

DYED ACETATE RAYON! *finished with* ARIPEL-FS

Reg. U.S. Pat. Office

Has Excellent Fastness to Atmospheric Gases

Yes, acetate rayon dyed fabrics treated with double-action ARIPEL-FS are remarkably resistant to the fading action of atmospheric gases as proven by the "Gas Chamber" test.

ARIPEL-FS is also an effective softener and therefore works two ways in a one bath treatment —

- **Increases the gas-resistance of the color.**
- **Imparts a soft, smooth pleasing finish.**

ARKANSAS CO. INC.

Manufacturers of Industrial Chemicals for over 40 Years

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for uniform dyes

There are no off-shade colors in the uniforms of our service men and women.

Colors dye uniformly on cotton, wool, linen, silk, or rayon when SOLVAY Liquid Chlorine is used as the bleaching agent and water conditioner. Controlled quality, purity, and uniformity are your assurance of dependable performance.

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NEWS ABOUT Men

Hugh Comer will become president of Avondale Mills, Sylacauga, Ala., on July 1, succeeding **Sam Y. Austin,** who has resigned after serving in this capacity for five years. **E. S. Dunn,** general superintendent, will succeed Mr. Comer as general manager and executive vice president. **W. A. Turner** has been promoted from superintendent of the plant at Alexander City, Ala., to general superintendent, and will be succeeded in his former position by **J. V. Nelson,** assistant superintendent. **Frank Asbury** has resigned as assistant general superintendent and **Homer Roberts** has been promoted from superintendent of the Eva Jane Mill to the position of superintendent of all the plants in Sylacauga.

Leo F. Behrens, of Imperial Linens, New York, was elected president of the Linen Trade Association, Inc., at the annual meeting recently.

Paolino Gerli, former secretary of La France Industries, Inc., New York, was elected president at a recent board of directors meeting. He succeeds **Bernard Davis.** Other officers include **James H. Hayes,** chairman of the board; **Robert E. Nicholson,** executive vice president; and **D. J. R. Suffredini,** treasurer and comptroller.

Robert R. West, president of Esmond Mills, Esmond, R. I., has been appointed assistant to J. A. Krug, chief of War Production Board, to assist in stepping up the war-vital production of textiles.

W. J. Armfield, and **Leroy A. Stadler,** have been named vice presidents of Burlington Mills Corp., Greensboro, N. C.; **F. D. Frissell, Jr., G. E. Gregg,** and **B. M. McConnell,** assistant vice presidents; and **W. B. Sellers,** director of research and

Prentice M. Thomas Joins TEXTILE WORLD Staff

Prentice M. Thomas, until recently overseer of spinning at Bemis Bro. Bag Co., Talladega, Ala., has joined the TEXTILE WORLD staff in New York as assistant editor. Mr. Thomas was formerly a contributor to the editorial columns of this publication under the nom-de-plume "A. C. Walters," and also wrote for general magazines under his own name.

He was born in Clanton, Ala., in 1912, and is a graduate of Southern Union Junior College, Wadley, Ala. He also attended Lincoln Memorial University, Harrogate, Tenn., where he majored in journalism. His college career was followed by a short period of newspaper reporting in Pineville, Ky., and Columbus, Ga.

At Columbus, Mr. Thomas went to work for Columbus Mfg. Co., remaining seven and one-half years, six of them as second hand in the carding department. Later he moved to Swift Spinning Mills, also in Columbus, as night assistant superintendent, and finally joined the Bemis Bro. Bag organization in Talladega, Ala., where he soon became laboratory head and assistant research director.

It is an interesting coincidence that all three of the men most recently added to TEXTILE WORLD's editorial staff—C. W. Bendigo, executive editor; C. Mallard Bowden, Carolina editor; and now Prentice M. Thomas, assistant New York editor—majored in journalism in college and later acquired extensive practical experience in textile-mill work.—Edwin D. Fowle, Publisher and Editor.

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We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins.

Holders for all types of mules, frames, twisters, and winders.

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WRITE FOR BULLETIN #706

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FOR INCREASED CARD ROOM PRODUCTION USE WISSCO CARD CLOTHING

Wissco's beginning-to-end control of manufacture assures perfect card clothing—the kind of clothing you need to get smooth, uniform carding and high production. We make our own steel and draw our own card wire. The staples are clean cut and precision ground for keen penetration. The finished product is inspected microscopically.

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for wool, worsted, cotton, asbestos and specialties

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Our mills are equipped with the latest developments in processing and labor saving machinery, thus assuring a minimum of handling of the delicate fibres.

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KENNETH R. FOX (left), assistant professor of Textile Technology of Massachusetts Institute of Technology, was elected president of Lowell Textile Institute on May 1, as reported in these columns last month, succeeding CHARLES H. EAMES (right) who is to retire this month. The new president is a graduate of Lowell, B. T. E., class of 1938, and of M.I.T., with a master's degree in 1940. In 1933 and 1934 he was with Newmarket Mfg. Co., and in 1935, he was connected with the Horner Woolen Mills Co. He was manager of the Lowell Textile Associates, Inc., from 1937 to 1938. He was a research assistant for the Textile Foundation work at M.I.T. in 1939, and served in a similar capacity in the Textile Division of M.I.T. during 1940 and 1941. He was an instructor at M.I.T. until 1943, when he was promoted to assistant professor. In addition to his academic interests, Professor Fox is vice president of the Fabric Research Laboratories, Inc. His honorary positions include president of the Boston Microchemical Society, Fellow of the British Textile Institute, holder of the American Cotton Manufacturers' Association scholastic medal for 1938, Sigma Xi, and Tau Epsilon Sigma. He is a member of the American Association of Textile Chemists & Colorists, American Physical Society, The Textile Institute, and the American Association of Textile Technologists. In returning to his alma mater, Professor Fox will find many of the instructors by whom he was taught, including his father, Russell M. Fox, an instructor of textile design.

Mr. Eames is a native of Andover, Mass., and holds B.S. degree from M.I.T., class of 1897. After industrial work in electrical engineering for seven years, he joined the faculty of Lowell Textile School, as it was then called. In 1907 he became principal and in 1918 president, which office he has since held until reaching the age of compulsory retirement. He is member of American Institute of Electrical Engineers, American Association for Advancement of Science, and National Association of Cotton Manufacturers.

development. **Webb Durham** has been promoted to assistant to the general manager.

Kenneth B. Cook, vice president in charge of operations for Manville-Jenckes Corp., Manville, R. I., has been named industry member of a WLB commission to study rate structure of northern textile mills. A graduate of the Lowell Textile School, he joined Manville-Jenckes in 1928 as technical superintendent.

Sidney A. Stein, who was placed in charge of Century Factors, Inc., New York last December, was elected assistant vice president of the factoring company at the recent annual meeting. **Julius Lipschutz** was elected assistant treasurer.

Thomas M. Bancroft, assistant director of the Textile Bureau, WPB, has resigned from government service, effective June 1. He has been in charge of converting cotton to war usages, and made a tour of British cotton manufacturing centers last summer. In civilian life, Mr. Bancroft is vice president of Turner Halsey Co., New York.

Maurice Raux, formerly with Esmond-Virginia, Inc., Waynesboro, Va., and for 11 years production manager of American Velvet Co., Stonington,

Edwin D. Fowle, publisher and editor of TEXTILE WORLD, is giving a series of talks at Army hospitals on the subject, "Postwar Jobs in the Textile Industry," at the request of the United States Citizens Service Corps. Engagements to date have been at Fort Jay, Mason General, and Camp Upton. He has also recently recorded upon request a description of the textile industry to be broadcast from Australia.

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Cotton yarns, single and ply
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Colored yarns and warps
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Seamless grain bags.

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A New Chemical Treatment
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A small percentage of Amysol-WS in your starch solutions will rapidly penetrate the size into the yarn and control dusting, reduce end breakage, facilitate and speed up your manufacturing process. Combines readily with virtually all sizing additives. Easy and simple to use and truly a compound of tomorrow available today.

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PIONEER SALT COMPANY
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Conn., has joined Penn Worsted Co., Philadelphia, Pa., as vice president, production manager, and assistant to the president.

Henry P. Kendall, of the Kendall Co. **Oscar Johnston,** of National Cotton Council; **W. N. Banks,** of Grantville Mills; **Donald Comer,** of Avondale Mills; and **Louis Sachar,** of Reliance Textile Co. are among the members of the Business & Industry Committee for Bretton Woods formed to support the Bretton Woods agreements which were before Congress.

Robert R. Hertzler, controller of the Forstmann Woolen Co., Passaic, N. J., was elected president of the New York Chapter of the National Association of Cost Accountants on May 28.

Burton F. Mitchell, superintendent of the mercerizing department of American Yarn & Processing Co., Mount Holly, N. C., has been promoted to assistant vice president and general manager of manufacturing.

H. W. Phenix, who has been assistant treasurer of Canadian Wool Co. Ltd., Toronto, Ont., was recently appointed vice president. **A. S. Russell** has been added to the board.

William C. Ryckman and **H. J. Briggs** have been elected vice presidents of Lane Cotton Mills, New Orleans, La., **J. D. Rumph** is treasurer, and **L. J. Odenheimer,** president.

James G. Hanes, chairman of the board of Hanes Hosiery Mills, Winston-Salem, N. C., has been appointed an industry member of the Fourth Regional War Labor Board, Atlanta, Ga.

Abner Nash has become secretary and treasurer of Sterling Cotton Mills, Franklinton, N. C., succeeding **A. H. Vann.**

Hardin C. Graham, secretary of Chatham Mfg. Co., Elkin, N. C., since 1941, and assistant secretary of the firm for 19 years, has retired after 31 years of service with the company, and has been succeeded by **James A. Booher,** who joined the firm in 1933 and has been in charge of cost accounting.

DR. LEWIS LARRICK, who has been appointed to the research staff of the Institute of Textile Technology as textile technologist. A native of Oklahoma, he was graduated from Phillips University in 1926 with a major in physics and did his graduate work at the University of Washington and Iowa State University. He comes to the Institute from the laboratories of The B. F. Goodrich Co. in Akron, where he had been a research physicist since 1932, working mainly with tire cord and other textiles for use in rubber products.

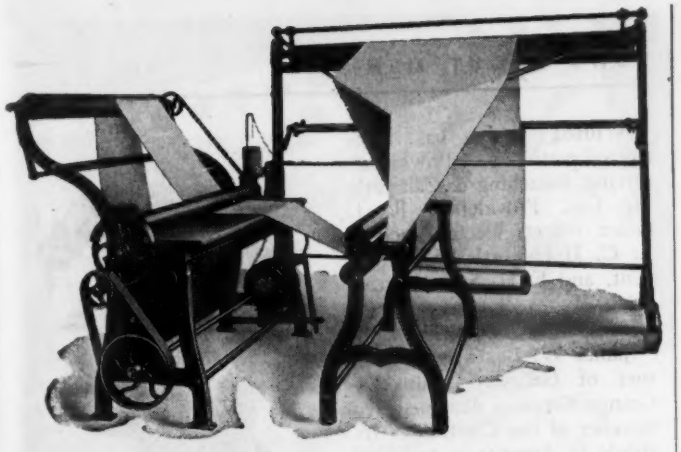
Robert Jackson, who helped to organize Gastonia Full-Fashioned Hosiery Mill, Inc., Gastonia, N. C., and who has been secretary-treasurer and in charge of mill operations, has resigned.

Edwin N. Brower, of Hope Mills, N. C., has been appointed acting director of the WPB cotton and synthetic textiles division, succeeding **George H. Lanier, Jr.,** who resigned to return to J. B. Warne & Co., New York.

H. C. McKenna has been appointed vice president and general manager of New Braunfels Textile Mills, New Braunfels, Texas. He was formerly plant superintendent and has been succeeded in this position by **E. H. Knox.**

J. R. Newell has returned to his former duties as treasurer of Mandeville Mills, Carrollton, Ga., after 36 months of service as captain in the Army more than a year of which was in the Pacific. He will continue to serve as treasurer and general superintendent of the cotton mill division.

George H. Viles is now president of Worumbo Mfg., Co., Lisbon Falls, Me. He succeeds **Walter U. Gutman,** who resigned after holding that position for the past 36 years.



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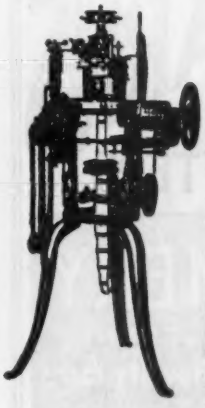
Your Uncle Sam has right of way insofar as our facilities are concerned. His requirements and his orders come FIRST, and we are proud to serve our country. At the same time, we regret that it may be necessary to ask our customers — users of Brinton Knitting Machines — to wait, until we can care for their needs.



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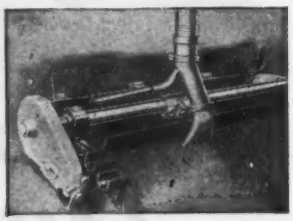

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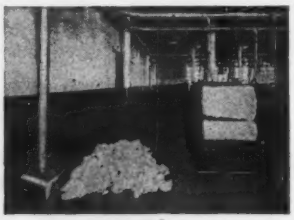
PROCESS WASTE COLLECTING

Through waste stations and flexible hose attachments, the vacuum piping also collects, and delivers to central Waste House, picker motes, flat strips, card underscreenings, comber noil, sweepings, etc.

REQUEST STRIPPER CATALOG



Waste Station for collecting flat strips, comber noil, etc.

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Vacuum Card Strippers – Yarn Dyeing Systems – Weaver's Knotters

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Specializing in

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NOVELTY-YARNS

For

WEAVERS-KNITTERS

MONTGOMERY

WINDSOR LOCKS, CONN.

Designers and Spinners of Novelty Yarns

NEWS ABOUT MEN

Wilfred Ward has been elected president of Providence Dyeing, Bleaching & Calendering Co., Providence, R. I. Other officers elected include **A. C. Holdsworth**, vice president, and **F. H. Swann**, treasurer.

James W. Boatwright, treasurer of Callaway Mills, LaGrange, Ga., is a newly elected member of the Controllers Institute of America, a technical and professional organization devoted to improvement of controllership procedures.

J. J. Scott, president, Scottdale Mills, Scottdale, Ga., has been elected president of the Textile Education Foundation, Inc., Atlanta, Ga. Other officers are **Frank B. Williams**, agent, West Point Mfg. Co., West Point, Ga., treasurer and **T. M. Forbes** of Atlanta, secretary.

A. Illges, vice president, Swift Spinning Mills, Columbus, Ga., was elected president of the Cotton Manufacturers Association of Georgia, at a recent meeting. Other officers are **A. B. Edge, Jr.**, vice president, HDV Division, Callaway Mills, LaGrange, Ga., vice president; **Charles C. Hertwig**, vice president, Bibb Mfg. Co., Macon, Ga., treasurer; **T. M. Forbes**, Atlanta, Ga., executive vice president.

Edgar B. Moore has been elected president of Penn Worsted Co., Philadelphia, succeeding **Robert M. Moore** who has been appointed director of research. **Maurice N. Roux** is executive vice president and **William T. Porter** is vice president.

Comer Jennings, president of Eufaula Cowikee Mills, Eufaula, Ala., is the newly elected president of the Alabama Cotton Manufacturers' Association, succeeding **George S. Elliot**, secretary of Dallas Mfg. Co., Huntsville who has been elected chairman of the board. **Homer Carter**, treasurer of Pepperell Mfg. Co., Opelika, was elected vice-president; **C. M. Elrod**, general manager of Boaz Mills, Boaz, treasurer; and **Mary Jane Carlisle**, of Montgomery, secretary.

Henry E. Abt has been appointed to the newly created post of managing director of the Brand Names Research Foundation, New York. **George L. Russell, Jr.**, is chairman of the foundation and president of the John B. Stetson Co.

CHARLES J. MOZUR, general manager since 1940, in April was elected vice-president of Native Lace Works, Inc., Hightstown, N. J. Mr. Mozur was formerly with Artistic Foundations, Inc., and with Double-Twist Spinning Mills. He is a member of the A.A.T.T. and of the New Jersey Industrial Council.

Robert S. Dempsey, formerly chief of the Textile & Sewing Machinery Section of the Textile Clothing & Leather Division, WPB, and more recently connected with Lowenstein & Co., New York, has joined Raycrest Mills Inc., Pawtucket, R. I.

Ernest Fallows, of the Boston office of Warwick Mills, has resigned and is now associated with Mr. Ziskind at Crescent Corp., Fall River, Mass.

Bernard J. Conlin was recently reelected president of the Wool Associates of the New York Cotton Exchange, Inc.

Carl Badger, New York, has been placed in charge of the new sales office of Esmond Mills in Memphis, Tenn.

J. H. Daughdrill has become general manager of the Southern division of American Thread Co., Dalton, Ga., succeeding **J. M. Longley**, who resigned to become president of Dalton Textile Corp.

Ruth Montrose has resigned from S. Stroock & Co., Inc., New York, to open her own fabric business specializing in individual quality fabrics for American designers and retail stores.

Your Standard Specification for Silicates

STANDARD

INSURES SATISFACTION

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GENERAL OFFICES: PITTSBURGH, PENNSYLVANIA
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MILDEWPROOFING COMPOUNDS

To Meet Government Specifications

FLAMEPROOFING COMPOUNDS

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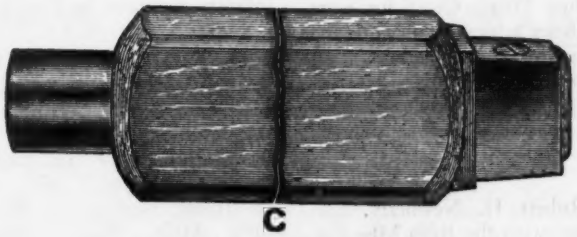

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Assures rapid, dependable de-sizing
Our technical staff always at your service.

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WRITE US FOR SAMPLES AND QUOTATIONS

MANUFACTURERS OF
Textile, Laundry
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Special Soaps
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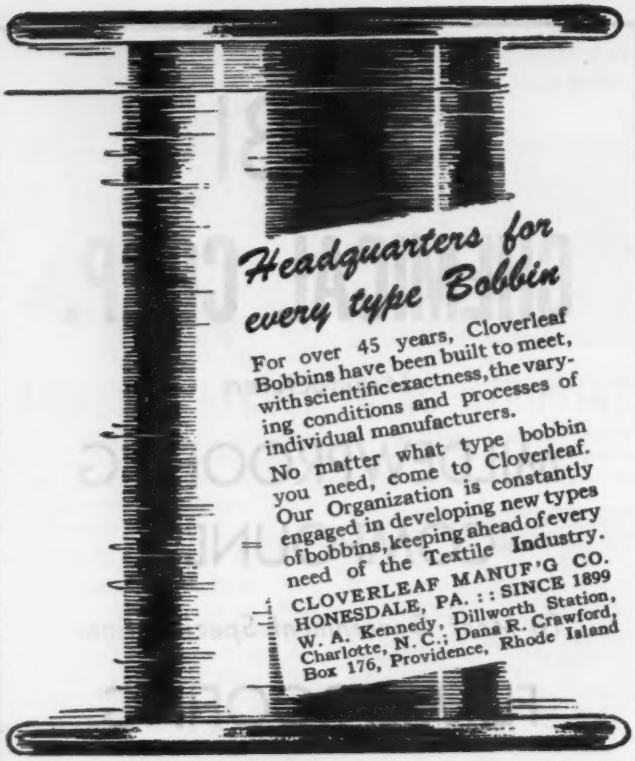

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Bobbins . . . . . .
New type cone drive spindle and bobbin available at end of war.

Include TESTING in Post-war Planning!

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Reduces waste and Stabilizes the production rate in many operations

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NAPPERS - SHEARS AND MANY OTHER MACHINES

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BOX 268, PORTLAND, MAINE

Men in Armed Services

Capt. Ben S. Gantz, has been appointed supply officer in command of the U. S. Naval Clothing Depot, Brooklyn, N. Y., succeeding **Capt. Charles D. Kirk,** who died last month. Capt. Gantz has been in the Supply Corps of the Navy since 1916, and has served in New York, Philadelphia, and Washington Navy Yards.

Comdr. C. L. Brinkley has been given command of the U. S. Coast Guard Supply Depot, Brooklyn, succeeding **Comdr. E. S. Kerr, Jr.,** who has been transferred to sea duty. **Joseph Lipshie,** lieutenant junior grade, former clothing procurement officer at the depot, is also being transferred to sea duty. He will be succeeded by **Ensign Arnold A. Saltzman,** who was formerly associated with his father in the Premier Knitting Mills. He also served with the OPA in the Knit Goods Section.

Jack K. Mates, 21, son of E. P. Mates, president of Manchester Knitted Fashions, Inc., Manchester, N. H., was recently awarded the Distinguished Flying Cross for extraordinary achievement while participating in aerial flight against the enemy. He was employed by Manchester Knitted Fashions before entering the service.

Robert H. Newberry, associated with the Bibb Mfg. Co., Macon, Ga., before entering the service, now a captain in the Army, has received the Bronze star and Purple Heart for service with a parachute infantry division in Europe.

Benjamin Rudisill, Cherryville, N. C., has been given an honorable discharge from the U. S. Army in which he held the rank of lieutenant and has become associated with Carlton Yarn Mills and Nuway Spinning Co., at Cherryville.

E. S. Bowers, Jr., officer-in-charge of the woolen cloth section, Philadelphia Quartermaster Depot, has been promoted to captain. A native of Drexel Park, Pa., Captain Bowers attended Swarthmore College and the Philadelphia Textile School, and served as secretary to Continental Mills, Inc., Philadelphia.

NATHANIEL H. BAILEY, administrative and personnel officer of the manufacturing division, Philadelphia Quartermaster Depot, who has been promoted to major. Before entering the Army, he was Southern sales manager for Dundee Mills, Inc., and its subsidiary, Lowell Bleachery South, both of Griffin, Ga. He also represented Woodward Baldwin & Co. of New York.

John A. Kelly, shop supervisor at Chatham Mfg. Co., Elkin, N. C., before entering the Army and now a staff sergeant, has been decorated with the Silver Star for gallantry in action while serving with an infantry regiment in France.

D. F. Horne, for the last two years in the Navy has been placed on inactive service with the rank of commander. He has returned to his former position of general sales and advertising manager of Wamsutta Mills, New Bedford, Mass.

John C. Childers, on leave from Erlanger Mills, Lexington, N. C., since 1942, to serve in the Army, now a lieutenant colonel, has been awarded the Silver Star for gallantry in Germany.

Thomas S. Blackwood, textile chemist with Proximity Print Works, Greensboro, N. C., before entering the Army in 1942, has been promoted to the rank of major. He is with the Third Army.

John Thomas Pullam, formerly on the head office staff of the Dominion Textile Co. Ltd. in Montreal, before he enlisted, has been awarded the Military Cross for gallantry during action while serving in Northwest Europe. He is a lieutenant.

2 GOOD CHEMICALS FOR COTTON GOODS

V VIRGINIA

"VIRGINIA" (SODIUM) **HYDRO**

A dependable Hydrosulfite for Vat Dyeing and Stripping.

1. Crystalline, stable
2. Free-flowing; non-caking
3. Easily and Quickly soluble

Packed in 250 lb. *airtight* containers.

"VIRGINIA" (LIQUID) **SO_2** THE IDEAL ANTICHLOR

The "Old Reliable" of the finishing plant. Low concentrations...

— remove active chlorine
— neutralize residual alkalinity
— eliminate excessive washing

Constant make-up by continuous flow to the pit. Shipped in steel cylinders containing 150 lb. net weight.

VIRGINIA SMELTING CO.
WEST NORFOLK, VIRGINIA

Style 20

LANE

The IDEAL BASKET for

LOOPERS

SEAMERS

RIBBERS

GENERAL

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Manufacturers : POUGHKEEPSIE, N. Y.

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New York Office: 100 Gold St. Philadelphia Office: Drexel Bldg.
Terrell Machine Co., 1200 No. Church St., Charlotte, N. C. Boston Office: 601 Atlantic Ave.
Other Sales and Service Branches in most Important Cities

AMERICAN

. . . more economical to use because . . . .

it runs more efficiently, producing a finer quality product that can be sold easier and more profitably

AMERICAN
YARN AND PROCESSING CO

MOUNT HOLLY, NORTH CAROLINA

CHATTANOOGA, TENN.
Mr. Tom Moore
735 Chestnut Street

PHILADELPHIA, PA.
Mr. Wm. S. Montgomery
3701 N. Broad St.

HIGH POINT, N. C.
Mr. E. J. Holbrook

MOUNT HOLLY, N. C.
Mr. Edwin Hutchison
Miss E. R. Abernethy
Mr. T. J. Davis

NEW YORK, N. Y.
Mr. Rowland Swallow
Empire State Bldg.

CHICAGO, ILLINOIS
Mr. E. W. Wood
222 West Adams St.

J. E. SIRRINE & CO.
GREENVILLE • SOUTH CAROLINA

Engineers

TEXTILE MILLS • RAYON PLANTS • KNITTING MILLS • DYE HOUSES
BLEACHERIES • STEAM UTILIZATION • STEAM POWER PLANTS
WATER • WASTE DISPOSAL • APPRAISALS • PLANS • REPORTS

Simplified **DESIGN**
Flexible **POWER**
Better **EVAPORATION**
More sensitive **CONTROL**

SOUTHWORTH HUMIDIFIER

Experienced textile men who know the merits of previous models of Southworth Humidifiers have found improvements in Model D that make it even more reliable and efficient.
Extreme sensitivity of control, and an "airplane propeller" type fan for greater evaporation, are two outstanding features.

NOTE
This advertisement is to remind you to include Southworth Humidifiers in your after-the-war plans. Frankly, we are 100% on war work and cannot make humidifiers at the present time.

THE SOUTHWORTH MACHINE CO.
PORTLAND MAINE

Obituary

Alfred Hofmann, 59, founder of the knitting machinery and needle firms that bear his name in West New York, N. J., died May 30. He came from Germany in 1900 and founded his first firm in 1910. For some years he imported full-fashioned hosiery machines, representing Schubert Salzer.

W. Walter Greer, vice president of Frank G. North Corp., died Apr. 29 at his home near Mauldin, S. C.

Ralph L. Pritchard, 70, senior partner of R. L. Pritchard & Co., fiber brokers and jute importers, New York, died recently.

Harold Freeman Barnes, manager of General Electric Lamp Department's sales promotion division since 1931, died recently in Cleveland, Ohio.

Herman L. Hirt, 41, assistant to the president of the International General Electric Co., died at New Rochelle, N. Y. recently.

D. Morley Lodge, treasurer of John T. Lodge & Co., Boston and Waltham, Mass., died reecntly. He had been with the firm 39 years.

Jesse W. Starr, III, Philadelphia, Pa., died recently. He was employed in the dye industry for more than 60 years and was associated with the National Aniline & Chemical Co., New York.

Robert S. Cooper, 57, former president of Coopers, Inc., Kenosha, Wis., died recently in Los Angeles.

Ambrose F. Broughton, 52, New England agent for Bates Fabrics, Inc., with offices at Boston, Mass., died at Arlington, Mass., on May 2.

Albert O. True, for 23 years civil and sanitary engineer for Proximity Mfg. Co., Greensboro, N. C., died recently.

J. Whidden Graham, 81, of St. Stephen-Milltown, N. B., died May 8. He joined the staff of Canadian Cottons, Milltown, and was manager of the plant for 26 of the 48 years he was employed there.

G. H. Yates, 82, former secretary of Hermitage Cotton Mill, Camden, S. C. died May 1.

Harold Herrick, 69, for 35 years a knit goods selling agent in New York, died recently. At one time, Mr. Herrick was manager of the outerwear departments of Appalachian Mills, Knoxville, Tenn., and Van Dyke Knitting Co., Milwaukee.

Ralph M. Deal, 48, southern representative of Crompton & Knowles Loom Works, died recently at Charlotte, N. C. He had been with the company for 25 years.

P. E. Moran, purchasing agent for a number of years for P. H. Hanes Knitting Co., Winston Salem, N. C., died recently.

John Thomas Jefferies Smith, 47, for 19 years cotton classer of Springstern and Eureka plants of Springs Cotton Mills, Chester, S. C., died May 11.

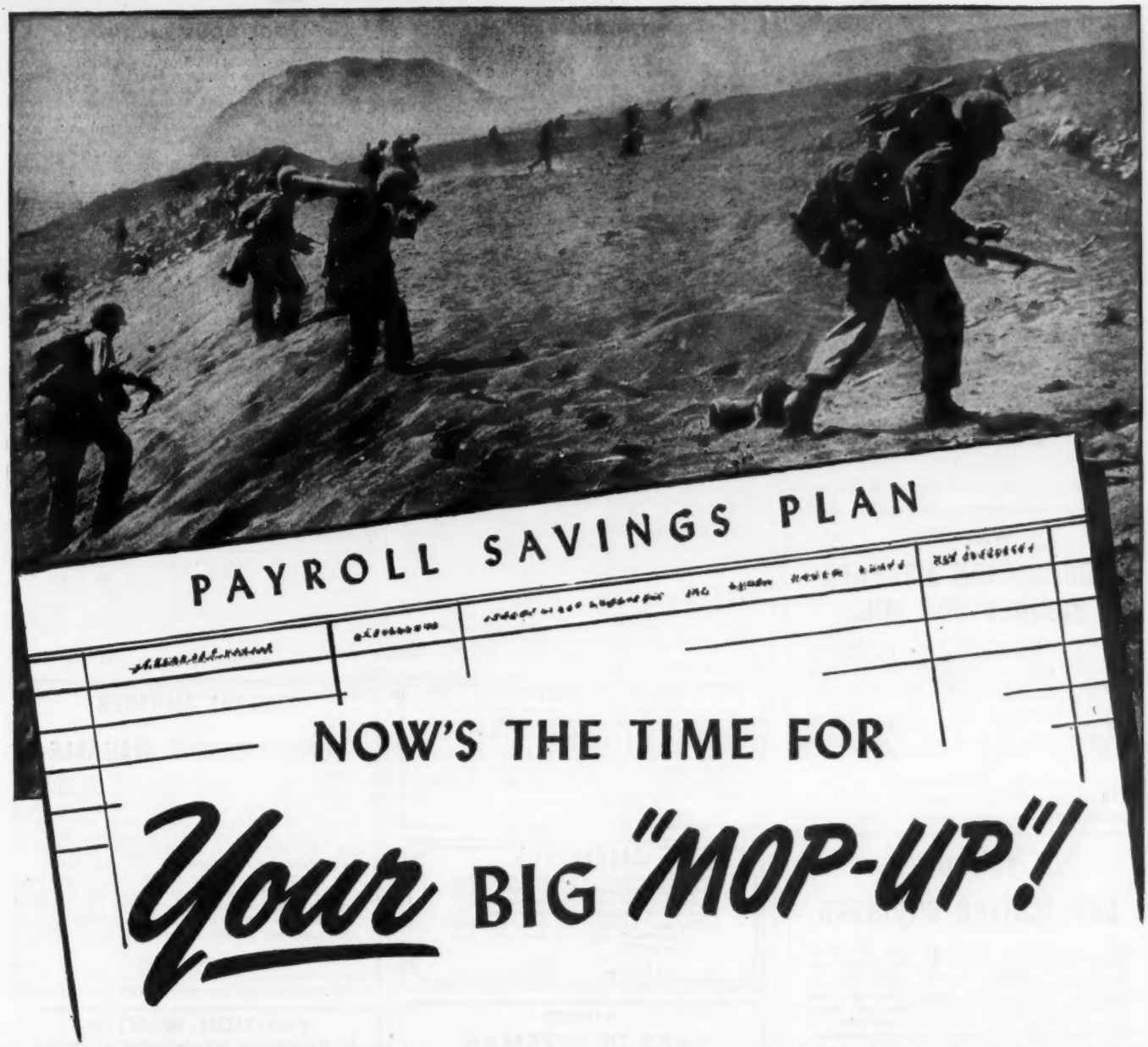
James C. Ramsey, 71, electrical engineer of American Woolen Co., Shawsheen, Mass., died at Reading, Mass., on May 13. He had been connected with the company for 46 years.

Edgar H. Nollau, 54, chemist and cotton specialist with the fabrics and finishes division of E. I. du Pont de Nemours & Co., Wilmington, Del., died recently.

Charles H. Savage, 86, for many years superintendent of the Merrimack Mfg. Co., Lowell, Mass., died at Framingham, Mass., April 22. Born in China, Me., he was also superintendent of Mt. Vernon-Woodbury Mills, Baltimore, Md. He retired 26 years ago.

E. C. Anderson, 52, connected with Hanes Dye & Finishing Co., Winston-Salem, N. C., in the mechanical department, died Apr. 30.

A. Stoddard Johnson, Jr., 45, formerly with Fidelity Machine Co., Philadelphia, and American Hosiery Co., New Britain, Conn., died recently.



NOW'S THE TIME FOR *Your* BIG "MOP-UP"!

RE-SOLICITATION is the keynote for a victorious "mop up" in the Mighty 7th War Loan. Bond rallies plus continuous competition between departments help to keep Bond subscriptions on a quota-topping climb. Strategic poster displays . . . showings of "Mr. & Mrs. America," the Treasury film . . . distribution of the War Finance Booklet, "How To Get There," and the handy Bond-holding envelopes play an important part. But, above all else, arrange to have every employee asked *once more*—and personally urged *once more*—to meet his personal quota in the Mighty 7th!

The Payroll Savings Plan is the mainstay of every War Loan—meeting your plant quota is vital to the success of the 7th! Remember we have to make two drives in 1945 do the work of three last year. Put on an intensive "mop up" final to help mop up the Japs, cut the tentacles of inflation—and lay the foundation of security.

The Treasury Department acknowledges with appreciation the publication of this message by

TEXTILE WORLD

★ *This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council* ★

SEARCHLIGHT SECTION

WANTED

TEXTILE ENGINEER

Well known, well established manufacturing company located in Middlewest. Age 33 to 35. Textile graduate. Must have 5 to 10 years mill experience on finishing operations. Must know fabrics and dyes. Salary $4,500 to $5,500. Unusual opportunity.

P-292, Textile World
520 North Michigan Ave., Chicago 11, Ill.

WANTED

PRODUCTION MANAGER BRAIDED RUG MILL

Large eastern cotton rug manufacturer has opening in organization for production manager in braided rug division; excellent future for right man who must be conversant with all phases of business including raw materials, labor training, styling. State full details experience, age, compensation desired, etc. All replies will be held strictly confidential.

P-266, Textile World
330 West 42nd St., New York 18, N. Y.

TEXTILE LUBRICATING ENGINEER

Old established manufacturer of lubricants desires services of Engineer for Southern territory. Prefer graduate of textile college, who has technical and practical experience in operation of carding, spinning and weaving machinery — and has made a study of efficient lubrication practice. State fully education, training, experience, age, etc., and compensation expected.

P-286, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED

PLANT ENGINEER

With technical education to head maintenance department of fifty men in woolen mill in Philadelphia area. A good post-war position. State experience, age, education, references, salary expected.

P-261, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

CHEMIST

Preferably with experience in textiles, for research laboratory of fungicide manufacturer for the textile industry. New York metropolitan area.

P-285, Textile World
330 West 42nd St., New York 18, N. Y.

POSITIONS VACANT

EXPERIENCED KNITTERS on tricot and double woven machines with national firm of long established record in the knitting field. Splendid opportunity for advancement for the men who can qualify. P-271, Textile World, 330 W. 42nd St., New York 18, N. Y.

EXCELLENT OPPORTUNITY: for technically trained graduate interested in textile research and development work. Responsible position with large, progressive New England textile manufacturer. Salary commensurate with ability and experience. Give all pertinent information and enclose recent photograph. P-273, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED: SEWING Machine fixer—on light weight knit underwear and outerwear. Permanent position for right man. Apply Elmira Knitting Mills, Elmira, New York.

PRODUCTION ENGINEER: Wanted by one of the largest New England sewing plants a high efficiency man with practical capacities to make his own working machine parts and develop efficient production methods. This is an unusual opportunity and salary is limited only by ability to produce. Only man interested in permanency need apply. Send detailed resume to P-298, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED—OVERSEER for carding and spinning. This would also be an opportunity for a good, ambitious second hand. State experience, references, salary expected, etc. Barnett Woolen Mills, 520 S. Muskego Ave., Milwaukee 4, Wisconsin.

BOSS WEAVER Wanted. Mill located in Ohio. 40 automatic C & K W-3 looms. Give reference experience and state salary. P-299, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

TEXTILE ENGINEERS: Specialists in various fields to work on fee basis. Important research organization requires outside assistance. State qualifications, specialty, background and references. P-300, Textile World, 330 W. 42nd St., New York 18, N. Y.

POSITIONS VACANT

RESEARCH CHEMISTS or chemical engineers wanted. Large textile manufacturer, vicinity New York City. Organic and physical research. Position of permanent nature leading to group leadership in expanding research and control laboratories. If interested, send full details of education, experience, salary desired and personal data. Write to A. G. Ashcroft, Director of Research, Alexander Smith & Sons Carpet Company, Yonkers, New York.

POSITIONS WANTED

ASSISTANT SUPT, thoroughly experienced in dobby and jacquard designing, loom fixing and weaving with some laboratory experience and two years as supervisor in a throwing plant. Textile graduate with 24 years experience in cotton mills. PW-248, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED—Position as knitting foreman, 28 years experience with old reliable company as foreman on cooper spring and latch needle knitting machines and payne winders. PW-247, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

HOSIERY SUPERINTENDENT: At present employed, desires new contact where knowledge and ability can be used to full advantage. Have ten years technical background. Able to assume responsibility of production, quality, and handling of help. Can furnish excellent experience and character references. Write PW-301, Textile World, 330 W. 42nd St., New York 18, N. Y.

KNITTER, first-class machinist, engineering background, inventive ability, 25 years experience on all types of knitting machines, looking forward to post-war work. Interested in building and developing machines. Prefer New York area. PW-303, Textile World, 330 W. 42nd St., New York 18, N. Y.

(Continued on page 260)

Wanted FOREMAN

to supervise operations in narrow textile mill in Virginia. Includes weaving, beaming, slashing. Essential industry. Narrow textile experience desirable but not necessary.

Good opportunity for the man who wants position with a responsible and well-established concern.

Write fully, stating experience, age, education, salary requirements, etc.

P-291, Textile World
330 West 42nd St., New York 18, N. Y.

CHEMISTS

with textile and detergent experience. Immediate openings available with established chemical company, permanent positions either sales-service or research departments. Excellent salary and chance for advancement now and post-war. Give complete details.

P-232, Textile World
520 North Michigan Ave., Chicago 11, Ill.

WANTED

LACE DRAFTSMAN

Experienced, by well established firm in New York State. Apply in writing, stating details of experience.

P-297, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED

Woolen Mill Superintendent

Progressive mill in the Philadelphia area manufacturing woolen specialties requires the services of a woolen mill superintendent with managerial ability. Good post-war opportunity. State age, education, details about experience, salary expected.

P-262, Textile World
330 West 42nd Street, New York 18, N. Y.

Wanted TIME STUDY MAN

With experience and college training preferred for nationally known southern textile firm. Good post-war possibilities and few reconversion problems. This is a permanent position with well established company. Give age, together with complete outline of experience and salary expected. All replies confidential.

P-288, Textile World
330 West 42nd St., New York 18, N. Y.

GENERAL MANAGER OR SUPERINTENDENT AVAILABLE

Highly capable manufacturer of rayon or cotton fabrics, with a broad experience in yarns and fabrics, including rayons, rayon blends, and mixtures. Considered excellent in styling, designing and cost quoting. Seeking new connection as Manager, Agent or Superintendent. American, 45 yrs. textile and business school graduate. 25 yrs. practical experience in carding, spinning, preparation and weaving. Successful record of aggressive modern management. Will furnish excellent experience and character references.

PW-287, Textile World
330 West 42nd Street, New York 18, N. Y.

POSITION WANTED

As Manager or Superintendent of dyeing and finishing plant. Thoroughly experienced in management, processing and production of plain dyed fabrics. Complete knowledge all equipment and operations.

PW-296, Textile World
330 W. 42nd St., New York 18, N. Y.

TEXTILE EXECUTIVE

Fully experienced in the manufacture of all types of woven fabric either wide or narrow, jacquard or plain and now general manager of mill manufacturing both white and colored cotton fabrics, I wish to change my present position and connect with a company who are in need of a man with wide experience in the manufacture of cotton, rayon or nylon fabrics. Fifty-four years old, thirty years as superintendent and manager.

PW-289, Textile World, 520 N. Mich. Av., Chicago 11

POSITION WANTED

Woolen Mill Superintendent

Outstanding Record. Capable Supervisor, Costs and Modern Methods, Exceptional Labor Background. With present employer 12 years. Available by mutual agreement Sept. 1st.

PW-283, Textile World
330 West 42nd St., New York 18, N. Y.

Over Forty-five Years of Dependable and Confidential EMPLOYMENT SERVICE

for textile mills, converters and selling houses requiring managers, superintendents, stylers, designers, salesmen, overseers, second hands, fixers, etc. 'Phone, wire or write us your personnel requirements.

CHARLES P. RAYMOND SERVICE, Inc.

Phone: Liberty 6547 — 294 WASHINGTON STREET, BOSTON 8, MASS.

A Royal Robe for Cleopatra

Back in the Stone Age they knew about weaving. Rude spindles and looms were used from the dawn of history. Fabrics of wonderful excellence were wrought by the ancient Egyptians, probably 3000 B.C. Linen from Egyptian mummies has been found containing 540 warp threads to the inch; wool, flax and cotton were woven and dyed for clothing, draperies, banners, the threads being dyed in the yarn.

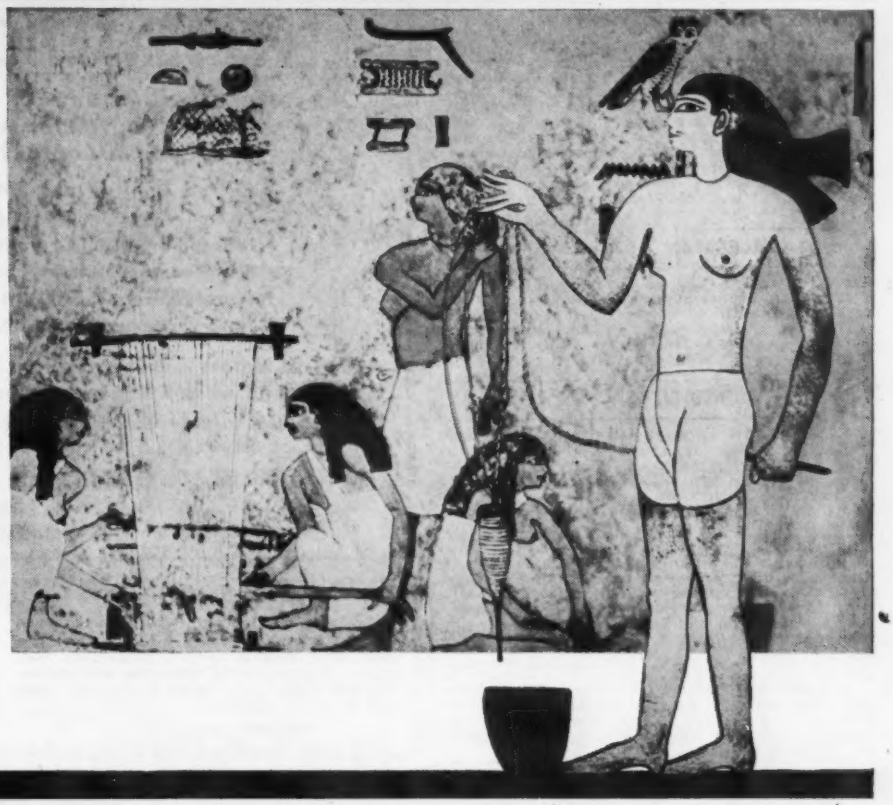


Illustration from the Bettman Archive

SERVING THE TEXTILE INDUSTRY

1—60" C & M Brusher
1—66" C & M Brusher and Sander
3—46" x 52" Button Breakers
3—42" Butterworth 3-Roll Friction and Rolling Calender, 1—motor driven, 2-belt dr.
1—60" D. & F. 2 cyl. Iron Shoddy Card
1—Sargent Yarn Conditioning Machine
2—100 Spindle Foster Model 25 Doublers
1—36" Doubling & Winding Machine
1—46" Windle Doubler
1—6 Delv. Whitin Drawing Frame with 12" coiler, and motor
1—4 and one 6 delv. H & B dr. frame
1—Franklin Package Dyeing Unit, incl. three 100-lb. and one 300-lb. machine, extractor
1—26" Tolhurst Extractor
1—40" Tolhurst extractor, belt-driven
1—30" American Laundry belt driven extractor
2—Hunter No. 10 Fulling Mills
10—40" C & M 42", 50", 100" Folding Machines
1—52" James Smith Card Grinder
60—42" Modified "E" Draper with roller tops, 47½" reed space, belt driven
12—76" cloth Draper modified D automatic Looms, 81" reed space with Lacy tops for 6 harness work, motor driven
18—92" C & K 4 x 4 25 Harness Belt driven woolen looms

FOR SALE

1—40" Hercules Copper Basket motor driven Extractor — 3/60/220

12—92" C & K 4 x 4 Box Looms, motor driven

1—20' Butterworth 66" Pin Tenter, motor driven

1—72" Kenyon 2-Bowl Crab

1—114" 2 Ball Padder, Brass and Rubber Rolls. Screw End, Lever Set.

1—114" Simpson Batcher

4—240 sp. D & F 2" gauge Mules
1—336 spindle Johnson & Bassett 2" gauge mule with 24 drums
1—90" D & F Single Acting 14 Roll Napper
24—72" Stafford 2x1 automatic Looms 77" reed space, 25 harness head motions, motor driven

1—24" Parkhurst Burr Picker
1—40" Parkhurst Burr Picker
3—65½" Voelker double bed rotary cloth presses belt driven 16" cyl.
1—66" Gessner double bed rotary cloth press belt driven 12" diameter roll
1—84" Voelker Cloth Press, motor driven
2—50" Dinsmore Inspecting, Sewing & Rolling Machines, Mtr. Dr.
1—60" C & M Plush Shear
2—66" C & M 2-Blade Shears
12—66" P & W 2-Blade Shears
1—66½" P & W Model A 2-Blade Shear
1—72" Monforts 2-Blade Shear
1—Shultze 106" Double Shear
1—Smith & Furbush Rag Shredder
1—42" C & M 5 Burner Gas Singer
12—256 Sp. Whitin 2" Ring Spinners
6—24 Spindle Fairmont Drum Spoolers for 4½ x 6" spools
10,000—4½ x 6" Wooden Spools
6—120 Spindle Draper Spoolers
1—60' C & M Tiger, Arranged for Mtr. Dr.
2—100 Spindle Foster #12 tube winders, belt driven
1—200-spindle Draper 2¼" Ring Tape Drive Twister
1—176 Spindle S.L. 4¼" Ring Twister.
5—D & F Warpers with Beamers, etc., 82" to 100"
2—54" Entwistle Warpers

MACHINERY LIQUIDATING COMPANY

OPA REGISTRATION NUMBER 789

EST. 1923

31-33 West 42nd Street — NEW YORK 18, N. Y.

DOMESTIC — TELEPHONE PEnnsylvania 6-8014 — EXPORT

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUUPPLIES

POSITIONS WANTED

(Continued from page 258)

PRACTICAL WOOLEN Mill man available. Practical woolen mill manufacturer employed as production manager for the past six years with present employer, desires new connection with reputable concern as manager, superintendent or production manager. Extensive experience in all phases of woolen manufacturing. Will be beyond draft age shortly. College education. PW-302, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

SALESMAN AVAILABLE

TECHNICAL COLLEGE graduate; age 45; 22 years experience skein dyeing; desires association with dyestuffs or textile finishes manufacturer as salesman. Please give details in first letter. SA-250, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

REPRESENTATIVES AVAILABLE

AGENCIES for Australia required for Manchester goods, cleaning cloth, cotton waste and general merchandise. Reply David Hyman, Merchant, 12 Henry Street, Kew, E4, Melbourne, Australia. (Bankers — English, Scottish & Australian Band Ltd., Kew, Melbourne, Australia.)

REPRESENTATIVE EUROPE. British company with offices in England and Continent wishes to represent American manufacturers of textile and auxilliary machinery, spare parts, yarns and any articles used in the textile trade. Excellent references. Correspondence invited in first instance to RA-277, Textile World, 330 W. 42nd St., New York 18, N. Y.

FIRST-CLASS Swedish agency firm desires to represent well organized USA mills producing tops, worsted yarns, cotton yarns, woven and printed cotton goods. Best references. Reply to RA-304, Textile World, 330 W. 42nd St., New York 18, N. Y.

NOW REPRESENTING a finishing plant, sales office in Chicago area. Wish additional representation for a grey mill (cottons only) or related field. Have good contacts, especially with clothing and canvas trade. RA-305, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

BUSINESS OPPORTUNITIES

WANTED—PRODUCT for manufacture or sale. Manufacturer of flat-weave floor coverings is seeking suitable product for immediate or post-war manufacture or sale. BO-227, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

WHICH FINISHING, dyeing or roller print plant will be interested in developing an up to date department of plastic coating with synthetic resins? Please contact executive, experienced with this method interested in partnership. BO-306, Textile World, 330 W. 42nd St., New York 18, N. Y.

SWEDEN

Well known textile agent wants the representation on commission basis of American Textile Mills.

Reply to

FRED. WESSING

Regeringsgatan 56 Stockholm, Sweden

References: American Legation, Stockholm.

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL

Interesting booklet concerning Inventions, Patents, Trade-Marks and Copyrights, together with Schedule of Government and Attorney's Fees, sent without obligation. Simply ask for "booklet and schedule."

Established 1915

Patents & Trade-marks

Suite 448, 815—15th St., N.W., Washington 5, D.C.

DESIGN & MANAGEMENT CORP.

(Otto Engelhard, President)

Engineering, design & development of labor-saving and textile machinery (knitting machines). Inventions and products developed, fabric analysis.

82 Beaver Street New York 5, N. Y.

HAnover 2-3807

REPRESENTATION FOR SWEDEN

Old established and very active firm of Manufacturers Agents in Gothenburg, the most central port of Scandinavia, wishes to establish contact with a few Manufacturers of:

Cotton, Woollen and Silk yarns (also Nylon)
Cotton Piece Goods (Specially Shirtings,
Proofed Poplins, Cretonnes, Velvets,
Velveteens, (Handkerchiefs, etc.)
Worsted Goods, Suitings, Ladies' Dress Goods,
Fully fashioned Ladies' Stockings, Men's socks.

Our customers are chiefly first class weaving- and knotting-mills, makers up and wholesalers in Sweden.

Only Manufacturers who are really interested in direct export from U.S.A. to Sweden will be considered.

Write to: C. B. Gedda A/B, Drottninggatan 52, Gothenburg, Sweden.

Reference: The National City Bank, New York, N. Y.

PARTNER WANTED

To set up a pilot plant for production of Glazed Rayon Wadding. This material is new, and has attractive marketing features. It is made by conveyor, stream-line process when little labor is required, and has a quick turnover.

BO-294, Textile World
330 West 42nd St., New York 18, N. Y.

South American Mill Owners

We will select the machinery you require. We will also inspect machinery you contemplate purchasing. Our knowledge has been acquired by practical mill experience. "You can depend on us."

LAWRENCE H. KELLY

Textile Machinery Consultants

P. O. Box 2442, Paterson, N. J., U. S. A.

VETERAN

WANTS TO BUY OR LEASE

Small or medium-sized woolen mill. Prepared to make attractive offer for right proposition. Reply to

BO-263, Textile World, 330 West 42nd St., New York 18, N. Y.

GOVERNMENT YARN WANTED

We want to purchase or have you spin for us on commission basis 5,000 pounds weekly of 1½ run or 2¼ run government yarn. Steady work. Priority AA-1. To be followed by civilian orders when conditions permit.

CW-284, Textile World, 330 West 42nd St., New York 18, N. Y.

WANTED

Surplus

Chemicals, Dyes, Gums, Oils, Waxes, Greases, Pigments, Residues, By-Products, Wastes

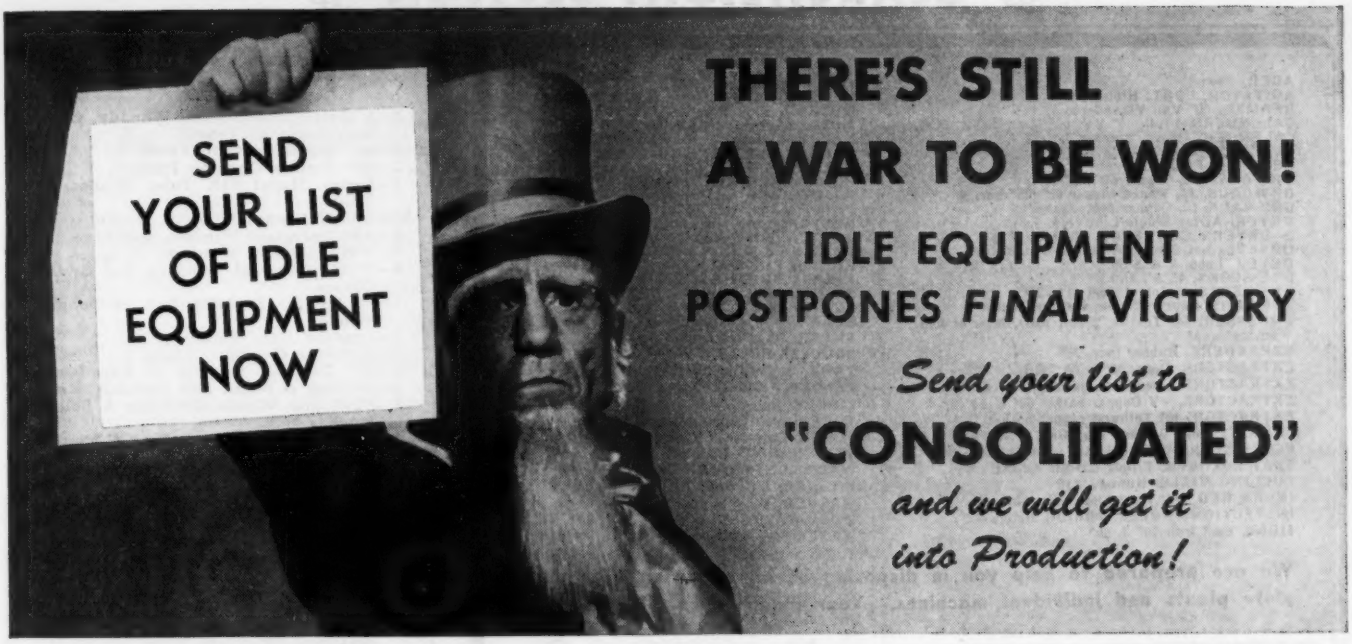
W-270, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED ONE BALING PRESS

To bale waste, size 72"x30" with upstroke either electric or hydraulic. If electric must be equipped with motor with current 60 cycle, 3 phase, 440 volts. Write full details

W-229, Textile World
330 W. 42nd St., New York 18, N. Y.

Additional Wanted Advertising on page 266


SEND YOUR LIST OF IDLE EQUIPMENT NOW
THERE'S STILL A WAR TO BE WON!
IDLE EQUIPMENT POSTPONES FINAL VICTORY
Send your list to
"CONSOLIDATED"
and we will get it into Production!

EXTRACTORS
6—V.V. & Tolhurst 54" & 60"; rubber & copper baskets.
8—V.V. Fletcher & Tolhurst 40-48", copper lined.
10—Tolhurst, American Laundry, Bock & Troy 14"-42", copper baskets.
2—48" Raw Stock Extractors.
1—Hercules 30" Open Top Extractor.

SCOURING & DYEING
2—Haveg Washers, completely enclosed.
1—Sargent 3-Bowl Skein Scouring machine.
6—Klauder-Weldon Skein Dyeing Machines.
1—Obermaier Yarn Dyeing Machine.
2—Buhlman 100-arm skein dyeing machines.
1—Smith Drum Skein Dyeing Machine.
3—Double Tier Comb, Beam & Package Dyers.
3—S-D Monel Rotary Dyers, 3 & 4-pocket units.
1—Geyser Type Skein Dyeing machine.
9—Franklin Cast Iron Pkgs Dyers—6-600#.

DRYERS
3—National & P & S Loop Dryers, 30-65' long.
1—P & S 72" Raw Stock Dryer, auutomatic feed.
1—Phila. Raw Stock Dryer, 48", automatic feeder.
3—Sargent & Hunter Wool Carbonizers.
2—P. & S. Oven type Package Dryers.
4—Truck Dryers, 1 & 2 trucks.
1—Multipass Airlay Dryer.
6—Proctor & Schwartz Yarn Dryers.
1—Pin Tenter Dryer, 64" wide.
1—V.V. 5-Tier Net Dryer.
2—Heathcote and Kenyon Cloth Dryers.
1—Proctor & Schwartz Hosiery Dryer.
1—Riggs & Lombard Cloth Dryer.
1—Sargent Wool Dryer. 1—P & S Apron Dryer.
1—National Loop Dryer, 96".

NAPPERS
2—D & F single acting Nappers, 60 & 84".
3—Gessner & Woonsocket double acting Nappers, 60", 84" & 90".

TENTER FRAMES
1—Textile Fin. Mach. 90'x50" Tenter.
1—W & J 80'x50" Swing Tenter.
1—Heathcote Pin Tenter.
1—25' Tenter with Bakelite clips.

PALMER QUETCHES & TENTERS
2—V.V. Palmers, 60" & 72".
3—Morrison & V.V. 50", 60" & 72" Palmer Quetches.
1—Butterworth 80" Palmer.
2—V.V. & General Machine 68" Palmerettes.

PADDERS, MANGLES, QUETCHES
5—Textile & Butterworth 2-Roll Pad, 50", 62", 90".
1—Butterworth 2-Roll 80" Padder.
4—Butterworth 50" 2-Roll Starch Mangles.
1—James Hunter 50" Water Manger.
5—Butterworth & Morrison 2 & 3-roll Quetches, 50-72".

BUTTON BREAKERS
3—Morrison & V.V. Button Breakers, 50-72", brass rolls.

BEAMERS—BATCHERS
4—Van Vlaanderen 50" & 60" Beamers.
9—Batchers, 48"-72".

FLAT FOLDERS & DOUBLERS
4—E & Hall Flat Folders, 42"-60", with motors.
3—P & W & Windle 46"-80" Doubling, Reeling & Measuring.
1—96" Doubling & Folding Machine.

COATING MACHINES
Plastic and rubber coaters, 50"-72".

SEWING MACHINES
5—Morrow 60ABB & 60D3B on stands and tracks.
3—Union Special and Singers.

BRUSHING MACHINES
2—P & W Cloth Brushers, 72" & 100".

SLASHERS
3—Saco-Lowell Cotton Slashers.

DECATERS
1—P & W 72" Decater.

BUY AND HOLD MORE WAR BONDS

WASHERS
1—Continuous 60" Boil-Off Machine, steel tanks.
1—Van Vlaanderen 60" Open Washer.
2—Open Washers, 5 & 8 compartments, 50" face.
1—3-Compartment Monel Rotary Washer.
1—60" Open Washer.

CALENDERS
2—V.V. Ball Bearing Calenders, 50" & 60".
6—V.V. Butterworth & Textile, 3, 6 & 7-Roll Hydraulic Calenders, 80".
3—Butterworth & Perkins 40", 54" & 80" 3-Bowl Schreiners.
1—Butterworth 3-Roll 54" Friction Calender.
2—54" and 65" Embossers.
1—Textile Fin. 3-Roll Narrow Friction Calender.

SHEARS
3—P & W 2-Blade Shears, 60" & 66½", complete with lint saving device and brushes.

DYE BECKS
12—Morrison & V.V. 6' to 9' Dye Becks, stainless steel and wood tubs.

DYE JIGS
2—Morrison 60" Dye Jigs.
4—Morrison Dye Jigs, 40", S.S.
1—Butterworth Scouring Jig.

DRY CANS
355—Dry Cans, 50" to 112" face, 23" to 84" dia.

Complete Silk Throwing Plant
Complete Jacquard Weaving Plant
Small Complete Woolen Mill

PRINT MACHINES & EQUIPMENT
2—BTA & BTS Motors, 25, 35 & 50 horsepower. Star gears, mandrels, copper pans & doctor blades.
1—Franklin 3-Color 45" Print Machine. Complete with Jack, and 8 Copper Rolls.

PRINTING MACHINES
7—R. B. & F 1-10 color Print Machines, 40"-60".
1—Waldron 4-Color Wallpaper Print Machine.
1—V.V. 10-color Ribbon Print Machine.

TUBERS
5—Tubing & Measuring Machines, 50"-60".
1—Hermas 60" Measuring Machine with Motor.
3—New 60" Beamers.

KETTLES
4—Textile Copper Steam Jacketed Color Kettles, tilting, agitated, 40-150 gallons.

WEAVING MACHINES
24—C & K 92" automatic looms.
13—C & K 82" automatic looms.
10—Draper 79" automatic looms.
52—C & K 52" automatic looms.
24—C & K 4x4 Automatic Tapestry Looms, 64".
30—72" Jacquard Looms, C & K.
60—Crompton & Knowles 92" Woolen Looms.

AGERS
2—Butterworth Cast Iron Agers, 18' & 30' lg-50-60" wide.

KNITTING MACHINES
150—1" to 21" Circular Knitting Machines.
4—Wildman 23" Ribbers.
2—Grosser Knitting Machines.

PREPARATORY MACHINES
2—Sargent & C & M Burr Pickers.
2—30" Rag Pickers.
1—40" Kitson Pickers.
1—40" Mixing Picker.
1—C & M 40" Fearnaught Picker.
2—Saco Lowell Condensers.
2—Saco Lowell Vertical Openers.
4—Pangborn Dust Collectors.
1—Conical Duster with dust blower.
1—Sargent Cotton Picker.

CARDING MACHINES
14—Sets D&F Wool Waste Cards, 48" x 48".
3—Sets D&F Woolen Cards, 48" x 48".
1—Woolen Card, 48" x 60" diameter.
3—Sets D&F Worsted Cards, 60" x 54".
2—Sets D&F Worsted Cards, 60" x 48".
2—Sets D&F Worsted Cards, 54" x 54".
2—Furbush Worsted Cards, 48" x 48".
6—Sargent, Bramwell & Harwood Feeds.
1—Barker Triple Rub 3-bank condenser.
16—Whitin D-2 Combers.
8—Hetherington Silver & Ribbon Lap Machines.
2—5-cylinder 48"x48" Shoddy Cards, equipped with Bramwell Feeds & metallic breasts.
3—Bramwell 60" Card Feeds.

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52—Whitin & D&F Spinners, 240-252 spindles 2"-3½" gauge, band driven.
1—D&F Wool Spinner, 4½" gauge.
36—Deliveries H&B Drawing Frames, 12" coilers.
1—J&B 336-spindle Mule.
6—Platt Worsted Mules.
1—Sipp Double Deck Winder.
1—P-S Ring Twister, 5" band drive.
3—Fletcher Double Deck Winder.
2—Foster #101 Cone Winders.
12—Universal #50 & #90 Winders.
8—Atwood 50-B Spinners.
2—Sipp 72" Warpers.
3—Whitin & Atwood Skein Reelers.
4—Jack Spoolers, complete with creels.
7—H&B Speeders, 5" gauge.
2—Foster #12 Winders.
4—Worsted Spinning Frames.

WATER SOFTENERS
1—Permutit Water Softener, 103" hg. 63" wd.
2—10 x 10 Vertical Softeners, Zeolite.
3—Pressure Sand Filters, 8' dia. x 20' long, complete.

FULLING MILLS
2—James Hunter #10 Fulling Mills.

GARNETTS
3—James Smith 3-cylinder Garnetts.
1—P & S Single Cylinder 20"x60" Garnett.
1—P & S 2-cylinder 20"x60" Garnett.

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DRYER, Loop, P & S 30'
DYE BECKS, 4', 6', and 8'
DYE BECKS, stainless steel 4' to 20'
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QUETCH, 2 roll, Van Vlaanderen
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RIBBON FIN. UNIT, Complete
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3—#80 Universal Winders
4—#180 Universal Winders, 8x8 Super Coners
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1—Lazenby Cop Winder.
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10—82" C&K 82" 4x4 box 25 Har. Looms
1—Kettling & Braun Full Decating Mach.
2—P&W and Windle Doubling & Rolling Mach.
1—P&W 66" Doubling, Rolling & Measuring machine.
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2—Smith Drum Skein Mercerizers
2—Woonsocket 82" 20 roll D.A. Nappers
1—80" Woonsocket 24 roll D.A. Napper
1—80" wide Butterworth Tenter
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1—Voelker 82" Double Bed Press
5—P&W and C&M 2 Cylinder Shears
1—Fletcher 48" Copper basket Extractor, arranged for motor drive, no motor
1—J. Smith 2 3/16" Ga. Mule

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1—Model "K" Barber Colman Portable Tying-In Machine.
1—Model 4-E Barber Colman stationary Tying-In Machine.
6—7x3½ Woonsocket Speeders, 160 spindles each.
4—8x4 Woonsocket Speeders, 160 spindles each.
1—Foster 100 spindle motor driven #30 Winder, equipped for tubes and cones.
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1—Curtis & Marble Shearer, 4 knife, #A-3809-11-33, 1933 Model with Automatic Seam Lifter, without Scray and Motor, for 44" cloth.

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17—355, 528, 730 & 1100 ft. Cap.
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200—C & K 2 x 1 Looms.

200—600 hook C & K Double lift jacquard heads.

32—C & K #1304 Fine Index Double lift single cylinder heads.

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15—Universal Winders with Bunch Builders.

SLASHER

1—Howard & Bullough Two-Drum Cotton Slasher, with 7' x 5' diameter Copper Cans.

DYE PADDERS

1—Butterworth 2 Roll Dye Padder, Brass and Rubber Roll, Motor Driven.

EXTRACTORS

2—60" Steam Driven Centrifugal Extractors, Perforated Copper Baskets, Quick Opening Cover, 600 R.P.M.

1—Kranz, 42" Centrifugal Extractor, enclosed motor, perforated copper basket, quick opening safety Cover AC Motor drive.

1—Adams 28" Extractor, 5 H. P. Motor, 400 RPM, 220 volts.

CAN DRYERS

1—6 Can Dryer, Copper Cans, 23" diameter, 50" face, complete with exception of motors.

1—Textile Can Drying and Rolling-up machine, Copper Can 36" diameter, 50" Face.

1—Textile Finishing Machinery Company set of 8 Copper Cans—2 stacks, 4 Cans to a Stack, Vertical Stacks, 50" wide.

1—Textile Finishing Machinery Co. Copper can dryer consisting of 8 cans, 23" dia. 54" face with take-up, let-off. Reeves Variable speed transmission.

1—Textile Rolling-up and steam machine equipped with copper can 40" dia. 48" face.

1—Textile Finishing Machinery Co. 8 Can Dryer, consisting of Copper Tinned Cans, 23" diameter, 54" Face with Take-up, Let-off, Reeves Drive, A.C. Motor.

1—Van Vlaanderen 5-tier, 4 section Conveyor Dryer, with Rods, 60" face, Motor Driven Fans, Airfin Heating Units.

COTTON SPINNING UNIT

5,000 Spindles, with Picking, Carding, Slubbers, Intermediates, Motor Driven Spinning Frames, Motor Driven Twisters, Speeders, Winders.

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DYEING EQUIPMENT

1—Rice, Barton & Fales Dye Jigg, 50" Roll, Wooden Tub, Metal-lined, complete with 2 Motors, 230 Volt, D.C.

4—Textile Dye Jiggs, 54" Wooden Tub, 2 Rubber-covered Ball Bearing Top Rolls, 4 Stainless Steel Immersion Rolls, Bevel Gear Drive with 1 DeLaval Worm Reduction Gear Unit, direct connected to Lincoln 10 H.P. A.C. Motor, 550 volts, 60 cycle, 3 phase, 1200 RPM, with Control.

TENTER FRAMES

1—Textile 40' Pin Tenter Frame, Link Belt Drive, #3 Reeves General Electric 5 HP, 60 Cycle, 3 Phase Motor, 60" wide, General Electric Guiders, Steam Heating Coils.

1—Winsor & Jerauld 40' Tenter Frame stainless steel clips. Reeves drive. A-C Motor.

1—Van Vlaanderen 50' goods, equipped with Marshall Williams Stainless steel clips. Reeves Variable speed transmission. All accessories.

1—50' Van Vlaanderen Tenter Frame, 50" wide, Enclosed Gears, Reeves Variable Speed Transmission.

COTTAGE STEAMER

1—Robert Metcalf Cottage Steamer, 10' long x 8' wide.

DYE BECKS

1—Stainless steel lined 18" dye beck Tank 18" x 30" x 96" Single Slot reel, Brass Idler rolls. Geared link chain drive.

3—20' Stainless Steel-lined Dye Becks.

QUETSCHES

1—Van Vlaanderen 3 roll quetsch 60" face; Motor driven, chain drive by 1 h.p. General Electric AC Motor.

1—Van Vlaanderen 65", 2-roll Quetsch, Brass Rolls, Reeves Drive, Ball Bearing.

1—General Machine Co. 2-roll Quetsch, 50" Brass Rolls, Bottom Roll approximately 9" diameter, Top Roll approximately 7" diameter, arranged for Motor Drive, no Motor.

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120—Scott & Williams Circular Latch Needle Knitting machines. 10" to 22", 10, 11, 12 and 13 cut. Large stock of new needles.

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1—Parks & Wilson 54" Doubling and Reeling.

1—General Machine Co. 50" high speed tuber with Reeves drive.

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1—Textile 58" Roller bearing Scutcher.

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Singer, Union Special, Merrow, Metropolitan and Willcox & Gibbs Flatlocks.

COUNTERS

34—Veeder-Root, Cloth Counters.

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1—Eastwood Gray Goods Folder, 60" wide.

3—E & H Flat Folders, 45" to 60" wide.

FINISHING CALENDERS

1—Butterworth 42" Hydraulic Schreiner 2 Bowl Calender, equipped with Cotton and Steel Engraved Rolls, Gas Heated Friction Unrolling and Batcher, Tension Rolls, complete with Accumulator and Pump, direct connected to General Electric 3 H.P. A.C. Motor, 50 Volts, 60 Cycle, 3 Phase, 900 RPM. Type M.T., with Drum Controller, Magnetic Switch and Grids.

KETTLES

7—Copper Steam Jacketed Mixing Kettles, equipped with Double Motion Bronze Agitators, 70 to 350 Gallon capacity.

METERS

G. E. Steam flow meter.

DECATORS

1—Parks & Woolson 72" Semi-Decator, with Blanket, Nash Vacuum Pump and Motor.

PRINTING MACHINES

1—Werner Single Color printing machine 47" face.

2—R. B. & F. 42" Multicolor printing machine.

PRINT MACHINE MOTORS

5—Print Machine Motors, 23 to 35 H.P.

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Six complete power plants, just purchased from the Georgia Power Company, which include:

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Item 11001-A

BACK WASHER

1—set of 2 bowls, 33" wide x 7' 4" long inside measurement x 14" deep
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1—Nip Roll #2 bowl—13" dia. x 28" face, Upper roll Rubber covered, Lower roll Brass
3—brass Nip rolls 5" dia. x 28" face in each bowl

Item 11001-B

BACK WASHER DRYER

Taylor Wadsworth & Co., Lt'd., 9 cylinder—41" C side x 11' 10" long x 7' 6" high containing 9, 23½" dia. x 31" dryer drums
5—pair glass panelled doors & 1 hatch door in top slope

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C. & A. 6' 8" wide x 5' 6" long

Above trains of three — all belt & chain driven by 25 H.P. G.E. Motor, 900 R.P.M.

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With belt driven fan, 23 x 21 inches opening

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26 x 28 inches diam. x 3/16 or 5/16 APPROX.—50—All Iron Beams 60" between heads with 26" Flanges

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Item 789

1 Voelker Steam Press

66 inches

Item 9793

1 Curtis & Marble Shear

66 in. (Belt Driven) Single Cylinder

Item 6767

1 Curtis & Marble Teasel Gig

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1—B&B Baling Press
1—90' Tenter 50" wide
5—40" Padders
1—50" Gessner Single Apron Press
1—54" Embossing Cal. Hydr. w/Pump & Acc.
1—40" Iron Sludge Extractor
1—36" 3 Roll Hydr. Calender

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1—46" 2 Roll Pad

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100—Model E Draper Looms, 40" cloth, 45" between swords, Lacey Top.
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Skene & Devaitee Wool Top Back Washers complete with creels, dryers and gill boxes.
16—Fales & Jenks Spinning Frames, 3" gauge, 256 spindles each, 1⅝" rings, band drive, 7" traverse, double boss.
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4—Sharpless Centrifuges Model 4-W
1—Dronsfield Bare Cylinder Grinder 60"
1—David & Furber Napper Grinder 108"
1—Hunter 3 Cylinder Garnett 20x60
2—Platt French Worsted Mules 570 spindles each
2—D&F Mules 396 spindles 2½" gauge
2—Whitin 180 spindle Wool Spinning Frames 4½" ga. 2½" ring
3—Foster Cone Winders 100 spindles Model 12
1—P&W 100" Vert. Brusher, Foxwell Guides, Calender Rolling Machine, Motor driven.
2—60" Bramwell Card Feeds
1—50" Butterworth Calender 5 Rolls
1—Calender 4 rolls, 38" Cloth
2—S.L. Fine Frames 144 spdles. 8x3½
2—S.L. Intermediates 84 sp. 9x4½", 7½" ga.
100—C&K 40" Auto Looms 4x1, 25 harness
8—72" & 6—82" C&K Tapestry Looms 4x4
2—P&W 66" Shears, 3-Knives
1—C&M 84" Shear, 2 Knives
1—3,000 Spindle Cotton Yarn Mill, Land, Buildings, machinery, water rights.
1—2,400 spindle Cotton Yarn Unit

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2—Long Chain Beamers.
14—Section Beams 54¼"—28" Pressed Steel Flanges.
150—Doffing Boxes, steel Klad, L. 21½"—W. 11½" —D. 12¼".
106—Metal Gill Box Cans, 2 Sections—35½"x17"x 11".
12—Pick Clocks, Veeder Root, 2 Shift, Reset. Complete with Gear Box.
850,000—Flat Steel Heddles 12", Cotton Type, ⅜" eye.
2000—Jack Spools—32½" & 32¾" with 10" Hds.
12,000—Spinning Rings & C.I. Ring Holders 1⅞" for Cotton.

Box 495 **Pawtucket, R. I.**

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1—Collins Rebuilt Twister, 160 Spindles, 3½ ring, 5 inch gauge, 8 inch traverse with 7½ H.P. motor drive complete. Excellent condition.

ROCK RIVER WOOLEN MILLS

Janesville, Wisconsin

2—second-hand Wooden Hussong Rawstock dyeing machines—150 and 300 lbs.—without motor—chain drive—with one hoist for both—$350.00 and $500.00 respectively, U. S. Currency, f.o.b. mill floor, subject unsold, crating extra at cost.

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7 ROLLS—80" FACE

3 Composition Rolls, 4 Steel Rolls, Hydraulic lift —water-cooled journals. Located in South.

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24—C&K 4x1 Box LOOMS 79½" 4 harness mtr. driven.
51—C&K 4x1 Box LOOMS 56½" 25 harness belt drive.
10—C&K 4x4 Box LOOMS 48" 25 harness belt driven.
18—C&K 4x4 Box LOOMS 82" 25 harness belt driven.
20—C&K 4x4 Box LOOMS 92" 25 harness mtr. driven.
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2—J&B MULES 2"-Gauge.
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WANTED

(Continued from page 260)

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WANTED

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23—75½" reed space Stafford Automatic bobbin change looms, 2 harness, roller top, ratchet take - up, friction let-off, positive feelers.

16—64½ reed space Stafford looms as above described.

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WRITE US OF YOUR PARTICULAR REQUIREMENTS. IMMEDIATE ATTENTION GIVEN TO EVERY INQUIRY.

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- 18—Crompton & Knowles, 4 x 4, 82" reed space, 25 harness intermediate heads, large shuttle boxes, woolen looms, individually motor driven, complete with 1 HP, 3 phase, 60 cycle, 220 volt motors.
- 10—4 x 4, 72" Crompton & Knowles Worcester looms, roller bearing shock absorber, motor driven, 1 HP, 3 Phase motors, oversized shuttle boxes, extended bottom shaft for Jacquards.
- 20—4 x 4, 64" Crompton & Knowles Worcester looms, motor driven, extended bottom shafts for Jacquards.
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50 Jacquard Machines 624 hook coarse index
20 Jacquard Machines 1304 hook fine index
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} ALL DOUBLE LIFT

Looms	**Spinning and Throwing Machines**	**Shuttles - Quillers**
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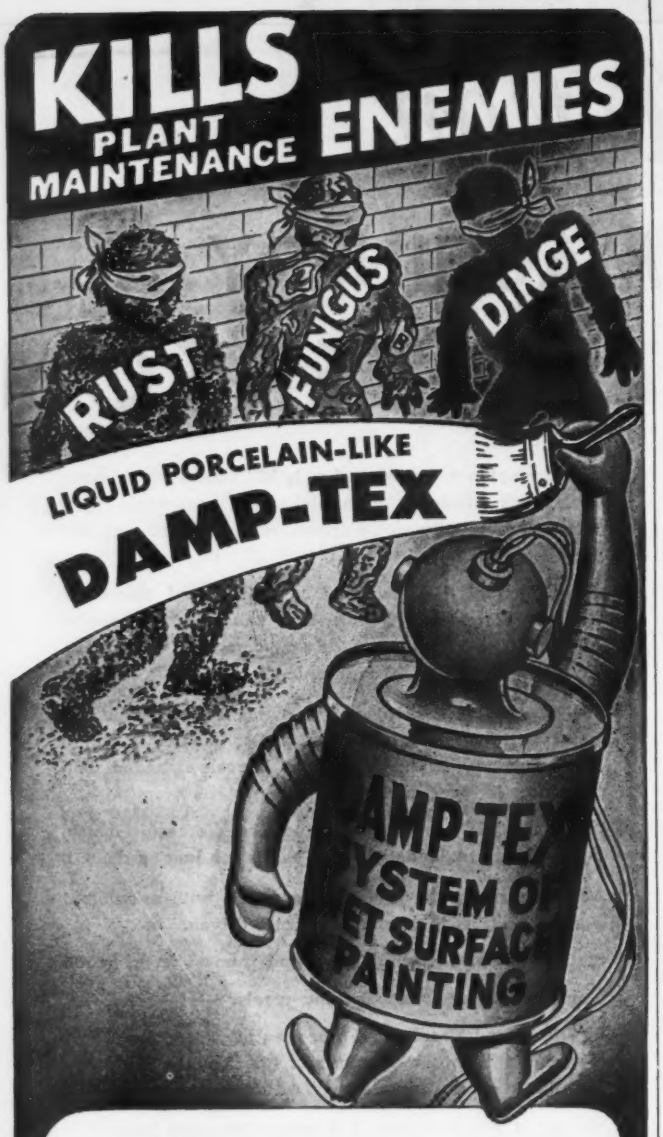

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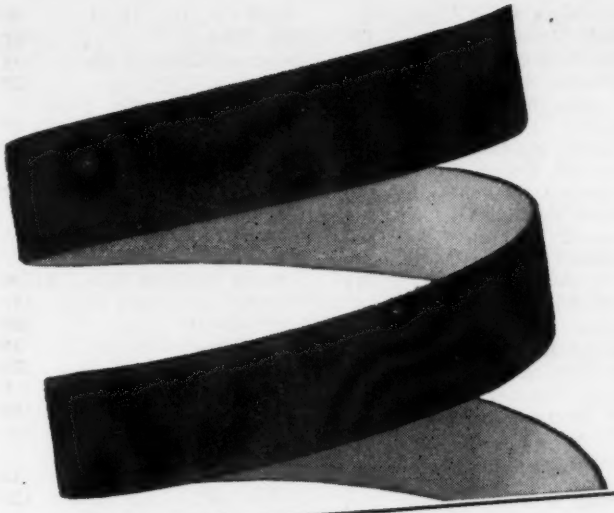

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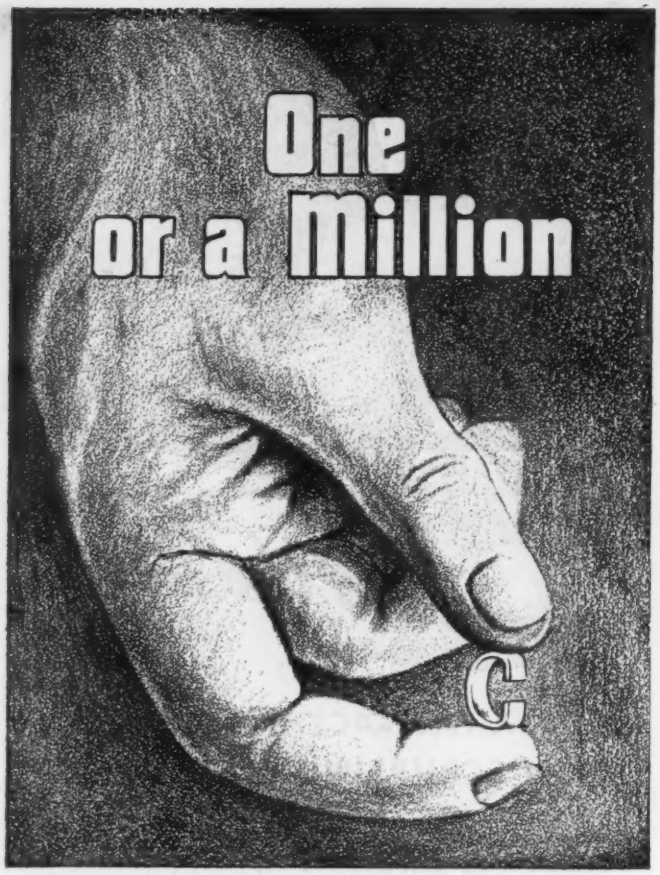

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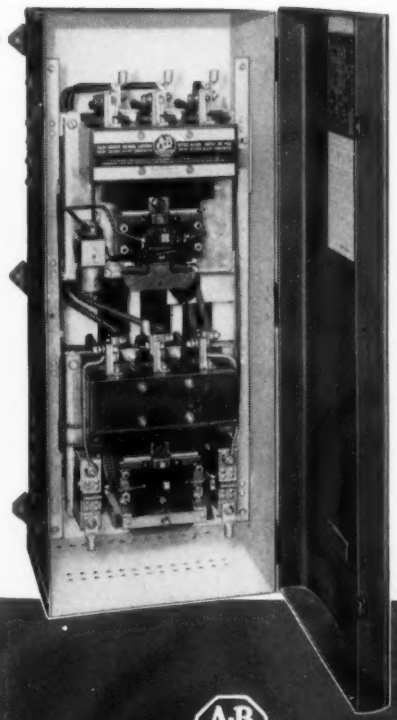
Allen-Bradley Velvet-Smooth Motor Starters in Mill of American Yarn & Process Co., Mt. Holly, N. C.

STOP YARN BREAKAGE

with Velvet-Smooth Motor Starting



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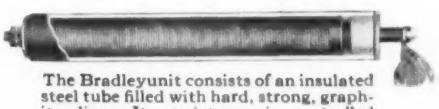

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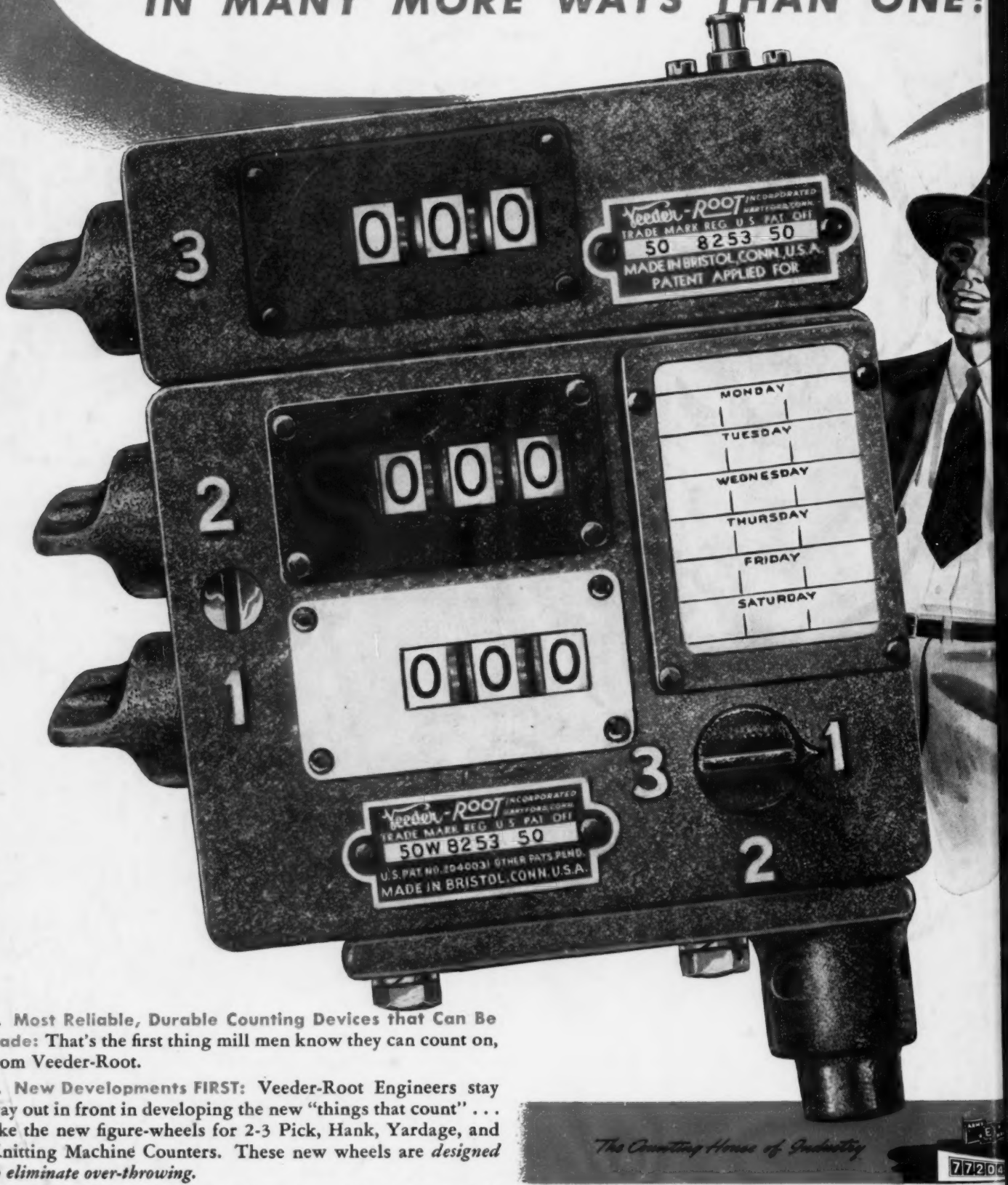

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